The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion of all Economic Topics of Interest

Vol. XIX MAY 1933 No. 5

The Deepening World Crisis.

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In a previous article (February), I have attempted to review world events for 1932 and stated that last year was perhaps the most crucial year of the post-war era. Events of a far-reaching nature, both in the political and the economic spheres, have so well impressed the world that there is a growing belief that the world crisis is deepening day by day. But there was the consolation that if the crisis has not reached the bottom it is fast approaching that desirable level. Economic depression has been at once epidemic and endemic in strange juxtaposition. Everywhere in the world we find the hope expressed that a sigh of relief might be released in the near future. As such, international effort is fast tapering to a single point where common effort to salvage the world from complete ruin might make a good beginning. The proposed World Economic and Financial Conference is expected to serve as a convenient *modus vivendi* to effect this change. President Roosevelt has already made arrangements for a conference of an informal nature in which world representatives might be brought together in an enclave with a view to prepare the ground for an international rapprochement. The Preparatory Committee of Experts themselves have done useful work in taking stock of the world conditions which have brought about this economic *malaise*. The next few weeks are bound to be hectic in character. The most unexpected might happen. Still disaster might stare us in the face after five or six years of common effort in the cause of an economic rehabilitation of the world. Problematical is the nature of the world effort towards thorough economic reconstruction. In this article I will endeavour to work out the pathology of the world economic crisis and indicate the lines according to which international crisis must be tackled.

The most amazing thing about the economic configuration of the world to-day is that we are living a hand-to-mouth existence amidst plenty. In fact, starvation and bumper crops are now our mixed legacy. This curious phenomenon might be easily explained with the assistance of a few statistics. According to a memorandum of the League of Nations, the salient facts of the present-day world economy might be summed up as follows: Taking 1926 as the base year the world population index for 1928 is 101.9. Starting with the same base the world production index for 1928 is 108, while the foodstuffs production index based on the 1926 values is also 108. Compared to 1923 the world production index of foodstuffs in 1928 is 127, while that for Europe alone is as much as 141. Inquiring into these figures more minutely, we get some curious information of considerable importance. China, with her incomparable and inexact statistics, yields us perhaps the largest percentage increase in the population figures, with India coming as a second best. On the production side, the South American countries and Europe register the highest percentage increases of production indices. Further per capita production of raw materials and foodstuffs is much higher in the world to-day than in the pre-war years.

From this set of indices, it is evident that production has outstripped the natural annual increment to world population. Further, it is noteworthy that both in the countries where the pressure of population is the largest and where production has taken long strides, economic distress is most acute. Thus, China and India are on the verge of starvation, while Brazil and other South American countries are unable to market their vast stocks of agricultural and industrial products. Thus, again, while millions in China are starving without food, huge quantities of coffee, wheat and other daily necessities are now being consigned to the blast furnaces of Argentina and the U.S.A. A glut in the world markets

has, instead of affording relief to the hungering masses, curiously enough heightened human misery. Surely, there must be something incorrigible in the world's politico-economic system to bring about this apparently inexplicable and deplorable phenomenon.

The pathology of the world economic misery might be summed up in two or three points. The utterly unjust post-war economic arrangements have a lot to do with this colossal dislocation in the socio-economic machine of the world. Reparations and War Debts have necessarily to do a lot with the present unhinging of world economy. After over ten years of hard struggle, Germany was able to secure a final settlement of the Reparations question, whereby a reduced assessment of reparations was devoted towards a common fund intended to provide the wherewithal for European reconstruction. But the question of the War Debts is still with us. The total amount of war debts due to the U.S.A. from twenty-seven countries is well over the ten thousand million mark, and during the past fourteen years about two and a half thousand millions have been paid, the greater portion of which being credited to the interest account, while the capital or principal account being practically untouched. According to the U.S.A. funding arrangements of 1923 and the succeeding years, these debts are expected to be liquidated by 1987. But the history of the War Debts during the post-era warns us that such a hope is utterly unjustified. Instead of being liquidated, default on the part of the debtor States would perpetuate them to an indefinable length of time. That the War Debts are blocking the course of international trade and seriously weighing down the world's tax-payer is recognized on all hands.

Yet, in another direction, the world seems to be moving on the downward scale. Despite the existence of the League of Nations and the elaborate peace machinery established under its auspices, the war-mentality is still with us, and to-day the world is more heavily armed than ever before. Compared to the pre-war standards, world armaments have appreciated well over fifty per cent and annually more than a thousand million pounds are spent towards their upkeep, penalising the always-meek citizen of the world with a per capita expenditure of over ten shillings every year to foster the deadly weapons of war. Despite the fact that the Preparatory Committee of Disarmament sat for over five years and the Disarmament Conference for nearly fifteen months, we are where we were in 1925 in regard to disarmament. If any, the present day tendencies are that armaments would increase than decrease, while war is actually being carried on both in the Far East and in the South American Continent, and the Franco-German and the Central European situation is threatening another armageddon comparable to that of 1914-1918. It is charity that the European countries are expecting from Uncle Sam for a lowering down of inter-governmental debts. But until substantial reductions are made in the world level of armaments, such a plea would never be heard seriously. This is a vicious circle of the first magnitude.

Further, international commerce is subject to the effects of an ultra-nationalistic tariff policy in almost every country. Even the U.S.A. and England have demonstrated their panicky mood when they have taken recourse to inexcusable tariff schedules. The Austro-German Customs Convention was cried down successfully as inimical to the progress of international trade and amity, but the Ottawa Agreements of the British Commonwealth are allowed to stand without any serious query. The reason for this contradictory state of affairs in Europe and the British Commonwealth being that the latter is a fairly homogeneous whole with the powerful backing of Great Britain which can dictate its own terms to the world, if not to the various units of the Commonwealth. This ultra-nationalistic economic policy has recently demonstrated itself when the Government of India have abrogated the Indo-Japanese Trade Convention of 1904 at the dictation of Imperial Britain with a view to shielding the Indian market from Japanese competition to British monopoly in the textile trades. Insensate tariff wars indulged in under the cloak of protective tariffs is the besetting sin of the world to-day.

Finally, we come to the question of currency and international exchange. It is notorious that gold as the norm of international standards of value has been fully exploded. The artificial demonitization of silver by powerful vested interests in Europe and America has caused great havoc, while the equally artificial maintenance of international exchanges by deliberate governmental effort all over the world has seriously interfered with par values. Over two-thirds of the world gold stocks are now condemned to an inert existence in the vaults of the Banque de France and the Federal Reserve Bank

respectively of France and the U.S.A. England herself went off the gold standard, dragging in its train India to ruin. So far we have exported over a hundred and twenty-five crores worth of Indian gold to afford sustenance for the declining pound sterling. But the fact remains, that unless silver is remonetized and the international exchanges are restored to their normal par levels, the question of the stabilization of world prices cannot be tackled. And prices, particularly agricultural prices of Asiatic countries like our own, have slumped anything between forty and sixty per cent, which meant virtual ruin to toiling millions of agricultural workers. The upliftment of the world's agriculturist is the primary duty of international statesmen.

The impending World Economic Conference is expected to discuss all these and many other problems. The oft-quoted view of the U.S.A. need not disturb us in our present task. The U.S.A. Government would be compelled to abandon it and agree to a discussion of inter-governmental debts at the forthcoming conference. If I am not mistaken the impending Washington conversations between President Roosevelt and world statesmen are indeed arranged with a view to facilitating the work of the World Economic Conference. At the time of writing this article, it is not clear that the conversations would include discussion of War Debts. But it is almost certain that the Conference itself would include it in its agenda at some stage or another.

The prime consideration which must prevail at the World Economic Conference is that political or economic "yard-sticks" should not be allowed to play the havoc they have done in the case of the Disarmament Conference. Instead, a saner and more liberal set of formulæ must be adopted with a view to finding a comprehensive programme of action for the restoration of prosperity in the world. Even a country like India, where a national government is conspicuous by its absence, has much to give to the common pool of international action towards the relief of economic distress which has paralysed international trade, commerce and the business of living. It is to be hoped that the Government of India would take a very definite line of action even in the single case of the remonitization of silver and thus give a lead to the World Economic Conference. The success of this Conference is the only hope for the establishment of the world economy on a sound basis. The impending weeks must be watched with concern by all who have the good of the world at their heart.

Mr. W. E. Krauss (*Ohio Agri. Expt. Station Bulletin No.* 477) writes.—The author's experiments with weanling rats (24 to 28 days old) showed that an exclusive milk diet (of milk obtained from three groups of Holstein cows on widely different rations) was far from being "perfect food", inasmuch as it caused severe nutritional anæmia, due to deficiency in iron and copper both of which are essential for maintaining the hæmoglobin content of the blood at a normal level. The iron and copper content of milk cannot be increased by feeding increased quantities of iron and copper salts to the cow. The bearing of such iron and copper deficiency of cow's milk is discussed in relation to anæmia caused in babies fed exclusively on milk. Analyses of infant livers show that the child is born with a supply of iron and copper sufficient to meet its needs for some time; however, it will be safer to add to the infant's diet some food like strained spinach, rich in the deficient elements, as soon as possible. The part played by various foods in increasing the hæmoglobin content of milk is pointed out; dextri-maltose, corn-syrup, vitavose or Mellin's food, when fed at a 7 per cent level with milk gave hæmoglobin values slightly below optimum. Orange juice and tomato juice had no significant effect on hæmoglobin. With infants, wheat embryo extract proved to be very effective. As soon as the human diet becomes varied, no further concern as to copper and iron deficiencies need be felt, provided a certain amount of care is exercised in the selection of foods. Apricots, peaches, prunes, raisins, grapes, apples, spinach, and cabbage are effective in hæmoglobin, while green vegetables, milk, cream, butter, onions, orange juice, egg yolk, etc., though rich in vitamins have poor hæmoglobin regenerative power. Various types of anæmia occur in horses, cattle, sheep and swine due to deficiency of iron and copper. Cane molasses were found to possess great anti-anæmic potency, while beet molasses were practically inert. No reproduction occurred in rats fed on an exclusively whole-milk diet. The addition of copper; iron and copper; iron, copper and yeast; iron, copper and wheat germ oil; yeast alone; or cane molasses, allowed reproduction, but lactation was poor.

Government of India's Budget.

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The budget for 1932-33 was presented by Sir George Schuster, the Finance Member of the Government of India, on February 28, 1933. He proposed neither fresh taxation nor any relaxation in taxation. In his budget speech he said, "The story which I have to tell this year of the public finances of India is a simple and—viewed merely as a matter of public finance—a satisfactory one. The emergency plan, which we introduced in September 1931, was designed to produce budgetary equilibrium for the two years 1931-32 and 1932-33, and now as we approach the end of the second of these two years and take stock of the position we can confidently say that our plan has worked." 1931-32 closed with two crores better than expected at the time of the budget last year with a deficit of 11¾ crores after providing for Rs. 689 lakhs for reduction of debt. 1932-33 closes with a surplus of 217 lakhs against the estimate of 215 lakhs after providing for 684 lakhs for debt reduction. Thus during a period of two years 1931-33 which may fairly be described as the two most difficult years for public finance which the world in times of peace has ever known, we shall not only have paid our way, but provided a balance of Rs. 415 lakhs for reduction of debt. This amply justified the great improvement in the credit of India. The Finance Member said, "It is interesting to make a short comparison between these results and the forecasts which I gave when I introduced the emergency plan in September 1931. We then anticipated, after allowing for the normal provision for reduction of debt, a deficit of 10.17 crores for 1931-32 to be followed by a surplus of 5.23 crores for 1932-33 and that the net amount available for the reduction of debt in the two years, after allowing for the deficit on the combined results, would be 9.11 crores.......We now anticipate that the net figure available for the reduction of debt will be 4.15 crores so that we are about 5 crores below our original estimate for the two years. As the combined amount involved in the two years is about crores 260 on each side of revenue and expenditure, I think we may claim that our forecast showing a variation of only two per cent from the result....was fairly near the mark."

Basing the estimates for the next year on the assumption that the conditions would be similar to those of the current year, he had budgeted for a surplus of Rs. 42 lakhs. This reduction of the surplus took into account the following changes:—a fall of about one crore of rupees in the customs allowing for reduction in imports of sugar and cotton piece-goods, and Rs. 1½ crores under salt owing to the disappearance of a special non-recurring addition during current year resulting from the abolition of the salt credit system. These reductions on the revenue side were counterbalanced by a reduction of Rs. 54 lakhs in the army expenditure and Rs. 36 lakhs in the civil expenditure in spite of the extra cost of Rs. 51½ lakhs and Rs. 28 lakhs respectively under these heads owing to restoration of 50 per cent cut in pay.

The detailed position of the main items of revenue for 1932-33 and 1933-34 may be summarised as follows according to the budget statement:—

			Revenue in lakhs of Rs.
Customs—			
Budget Estimates	1932–33	..	52,31.27
Revised Estimates	1932–33	..	52,28.55
Budget Estimates	1933–34	..	51,24.60
Income-Tax—			
Budget Estimates	1932–33	..	18,73.38
Revised Estimates	1932–33	..	17,70.00
Budget Estimates	1933–34	..	18,23.00
Salt—			net.
Budget Estimates	1932–33	..	8,27.71
Revised Estimates	1932–33	..	9,23.23
Budget Estimates	1933–34	..	7,58.04
Opium—			
Budget Estimates	1932–33	..	61.01
Revised Estimates	1932–33	..	8.56
Budget Estimates	1933–34	..	62.69

Referring to the 'Finance Heads', the Finance Member said, "It will be seen from what I have said that as regards Finance Heads there is no great change compared with the revised estimates for the current year. Net interest charges are down by 51 lakhs, Reduction and Avoidance of Debt is up by 4 lakhs and the net revenue from Currency and Mint is down by 61 lakhs. Interest receipts show a small decrease of 1 lakh. There is, therefore, a net deterioration of 15 lakhs."

The figures for two main items on the expenditure side are:—

			Lakhs of Rs.
Civil Expenditure—			
Budget Estimates	1932–33	..	20,65
Revised Estimates	1932–33	..	20,89
Budget Estimates	1933–34	..	20,53

In this connection the Finance Member said that there is a net 'reduction of 36 lakhs on the current year in spite of the following facts; first, that we have allowed for reducing the cut in pay to 5 per cent, thereby incurring extra charges of 28 lakhs on these particular Civil Heads; *secondly, that we have to meet* the normal increments in time-scale pay which still involve an annual addition of something like 15 lakhs; and thirdly, that we have to meet new obligatory expenditure amounting to about 17 lakhs. If all these items are taken into account it will be seen that the total of the net reductions otherwise effected under the normal heads of expenditure amounts to no *less than 96 lakhs.' It must be said that* the public is not concerned with items responsible for a decrease in savings, but only with the saving of 36 lakhs actually effected.

		Lakhs of Rs.
Military Expenditure—		
Budget Estimates .	1932-33 allowing for 10 per cent cut ..	46,74
Budget Estimates .	1933-34 allowing for 5 per cent cut ..	46,20

The comparison between the two years for the total budget is shown as follows:—

Crores of Rupees.

	1933-34 Budget.	1932 Budget.	1933 Revised.
Revenue ..	124·52	129·96	127·13
Expenditure ..	124·10	127·81	124·96
Balance ..	.42	2.15	2.17

The net deterioration for next year is estimated at 175 lakhs as follows:—

	Lakhs of Rs. Better.	Worse.
Revenue—		
Customs:—(Reduction due to fall allowed for in imports of sugar and cotton piece-goods) ..	..	1,04
Income Tax:—(Increase due to removal of exemption from surcharge on Government servants)	53	..
Salt:—(Reduction mainly due to *termination of temporary* receipts or termination of credit system)	..	1,63
Opium	25	..
Finance Heads:—(Net charges including additional expenditure of 1 on account of past restoration of cut in pay) ..	..	15
Commercial Departments—		
Net Revenue	..	11
Miscellaneous:— (Reduction of 30 due to no provision being included in next year's estimates for gain by exchange)	..	45
Expenditure—		
Military-Civil Heads:—(Net reduction effected in spite of past restoration of pay cut costing 79½ lakhs *under these heads* as compared with the revised estimates. This net reduction *together with the reduction* of 5 under Irrigation and Currency and Mint taken on the revenue side gives a total reduction of 90)	85	..
Total ..	1,63	3,38

The surplus after deducting 175 from 217 is thus reduced to 42 lakhs.

THE CUT IN PAY.

The Government have restored the cut to the extent of 50 per cent whose total cost on the Civil and Army side for 11 months has been estimated by Government to amount to 108 lakhs and taking into view the fact that exemption of surcharges has been withdrawn and more tax will be yielded on incomes of *Government servants below* Rs. 2,000, the net cost of the proposal to the Government has been estimated at 55 lakhs.

It should be said in this connection that the question from the point of view of the public is not about the net cost but about the total aggregate cost for full one year of the restoration of the cut; because in the absence of restoration burden of taxation could have been reduced. The action of the Government in reducing the cut was highly indefensible. Ten per cent was taken off the salaries when the surplus estimated was Rs. 2 crores, but when the estimated surplus was only Rs. 42 lakhs the Government had reduced the cut by 50 per cent. The Finance Member said, "*The second point is this that we regarded* a cut in the fixed pay of Government officials as an extreme measure only to be taken in the very last resort after the efforts of all other feasible measures for dealing with the situation had been exhausted. Obviously a measure which is thus only justified in the last

resort ought to be the first to go when any relaxation is possible...To those who think that we have gone too far or that we ought not to have taken this step in priority to relaxation of measures of taxation, I wish particularly to emphasise that this must not be regarded as optional expenditure to be weighed in the balance against other possible demands on the public funds. Government is not really meeting its full obligations as long as it is not paying its fixed rates of pay of its officials–rates, moreover, which in certain cases are guaranteed by the Government of India Act." The salary bill in India is scandalously high. India has been made to pay much more than she can afford to pay. The service men in India get more than their compatriots in any other country of the world. The salary of the Finance Member of the Government of India is higher than that of the Chancellor of the Exchequer of His Majesty's Government and the Governor-General of India is decidedly better off in this respect than any Minister of the Crown. *Therefore, the special plea put forward by the Finance Member on behalf of the service men cannot convince any right-thinking man.*

The Finance Member talked of 'sound finance'. He said, 'Therefore, by sound finance I mean a policy which provides for the paying of the expenditure of each year by the income of each year and does not put on to the tax-payer of to-morrow a burden which is properly that of the tax-payer of to-day.' It is true that expenditure of each year should be met from the income of each year, but what if the collection of the income causes an unbearable burden to the tax-payer of to-day? Should there be no consideration of the burden of the tax-payer of to-day in 'sound finance'? Can he be squeezed to any limits for any period of time? If the income of a business man cannot go up or cannot even be maintained, he is bound to cut down his expenditure and even the salary of the manager will be reduced though the latter may have been engaged on definite terms. This is real sound finance. The same principles should be applied to the case of Governments. Their expenditure should be reduced under certain circumstances and they cannot always start with the idea of a fixed expenditure to be met by increasing and increasing taxation. If this is done, the finance can by no stretch of imagination be called sound. The very fact that the cut in the pay can be restored, even partially, only when all emergency taxation is kept intact proves that these salaries cannot be paid by ordinary taxation. The scales of pay are guaranteed by the Government of India Act, but is there any sort of guarantee, moral or legal, that the poor man in India will be allowed to eke out a likelihood? If without paying their scales of salaries at the full rate, the Government is not really meeting its full obligation, then is the Government really meeting its full obligation when more than 50 million people are unemployed and the burden of taxation is paralysing trade and industry? The Finance Member has not held out any prospect of a reduction in emergency taxation, but has assured the service men that 'what we hope is that conditions will so improve during the next year that it may be possible not merely to avoid retracing the step now taken, but to take the further step of restoring the full pay and *after that* making a start in reducing the burden of taxation.' In future if finances improve the benefit should first go to the tax-payer, but it will not be so unless full cut is restored. Where is the well-known *principle of equality of sacrifice in this?* The Finance Member in his budget statement of 1931 had said that these surcharges and the salary cut will go together, but he had partially restored the one and had held out full hopes of restoration in future before touching the other.

With regard to the incidence of taxation Sir George Schuster quoted Sir Walter Layton according to whom taxation in India was only about 6 per cent as compared with 20 per cent in Britain and Japan. But income also should be compared before coming to any conclusion. In this connection the Simon Commission pointed out that the average income per head in India in 1922 was less than £ 8, while the corresponding figure for Britain was £ 95. 'The contrast remains startling even after allowing for the difference in the range of needs to be satisfied' (Simon Commission Report, Vol. I, Para. 374.) It is thus clear that the lower proportion of a low national income may represent a very much heavier burden than a higher percentage of a high income. Further, the relative burden of taxation in different countries cannot be considered apart from the nature of the services rendered to the people by the Government in return for taxation. In Great Britain the expenditure per head on education is £ 2 15*s.* whereas in British India it is less than 9*d.* (Simon Commission Report, Vol. II, Para. 238). If, therefore, in England the burden of taxation is more than three times as much as in

India, the amount spent on education is 75 times as much as in India.

With regard to relief in income-tax, he made a very vague statement and said, "As regards taxes on income...all that we can promise....is that they will not be continued longer than is necessary and that all our efforts will be directed to keeping down expenditure, and to preparing in other ways for a lightening of this particular burden." The continuance of the reduction of the taxation limit to one thousand and the maintenance of the surcharges so far is highly unjust. Taking into view the income per head, Indian tax-payer should be said to be the highest taxed in the world. There was no justification for lowering the tax limit under the circumstances and their continuance for any length of time is highly improper.

The best way to balance the budget was to reduce the military expenditure. Sir George Schuster said that Sir Walter had wished it to be reduced to Rs. 48 crores in ten years, while the Government of India had reduced it to 46 crores within three years. That is true but firstly, Indians cannot accept as gospel truth the limit laid down by Sir Walter Layton and secondly, the reduction has not even been commensurate with the tremendous fall in the prices of commodities. The military expenditure of India in 1913-14 was 29.84 crores and there is no reason why it should not be immediately reduced to this figure. Taking into view the budget estimates for 1933-34 and the military expenditure for the same year, the figures are 124.52 crores and 46.20 crores respectively which means that more than one-third of the revenue is still spent upon the army or more than 50 per cent is eaten away by the military and civil heads. Of course, an increase in public expenditure is not always a cause for regret and alarm and as the late Mr. Gokhale pointed out in his written evidence before the Welby Commission, 1897, 'everything depends in this matter on the nature of the purposes for which the increase has been incurred and the results produced by such outlay of public money....While increased expenditure in other countries under popular control ....has helped to bring increased strength and security to the nations, and increased enlightenment and prosperity to the people, our continually increasing expenditure has ....only helped to bring about constantly increasing exploitation of our natural resources, has retarded our national progress, weakened our natural defences and burdened us with undefined and indefinite financial liabilities.' We must beware of making a fetish of military efficiency and remember that a very poor country like India cannot afford to spend so much on military as is being done by the Government of India.

The Finance Member made provision in the budget for war debts for the current year and for the next year amounting to £ 658,800. There was no need for making this provision when it was not known whether England would demand it this year or next year and when there was the possibility that Australia, South Africa and Canada would either not pay or express inability to pay the debt. The Finance Member pointed out that without this provision, it would have been unsound finance. But then, it is not clear why no provision was made for India's reparation claims also. In this connection in reply to an interjection of Sir Cowasji Jahangir, Sir George Schuster remarked, 'Unfortunately one must suffer for being virtuous. We are good debtors while those who owe us may not be in a position to pay.' We are good debtors because the Government can levy taxation to any extent in utter disregard of Indian public opinion.

STAMP DUTY ON CHEQUES.

A proposal has been made for reimposing the stamp duty on cheques for a period of three years which is estimated to produce a revenue of about 7 lakhs for one year and a large part of the proceeds are likely to go to Bombay and Bengal. Happily this proposal has been thrown out by the Assembly. This duty was abolished from the 1st July 1927 in response to the recommendation of the Hilton-Young Commission which wrote, "This charge is undoubtedly an obstacle in the way of the development of banking in the country: It probably tends to restrain in many people from opening current accounts and so making payment by cheque instead of cash. This ....might well prove an important factor in bringing about a profound and still more widespread change in the economic habit of masses." (Paragraph 216.) The Finance Member said that from enquiries made by the Government of India it was clear that it had not increased the use of cheques as a means of payment. 'The report of the Indian Central Banking Enquiry Committee tends to confirm this belief....' This was a highly misleading statement as the Indian Central Banking Committee in very clear and unambiguous language said, 'Evidence is forthcoming from

all directions of a substantial increase in the number of cheques which daily pass through the clearing houses. The recent abolition of the stamp duty on cheques appears to have contributed materially to a more extensive use of the cheque, not only in the Presidency towns and other big commercial centres, but also in the mofussil.' (Para. 663.) In a subsequent speech he did admit that he was mistaken regarding the views of the Indian Banking Committee in this respect, but none the less persisted in holding that the cheque habit had not increased by the abolition of the duty. His contention does not deserve as much weight as the considered views of two expert commissions. This proposal would have been highly detrimental to the growth of banking habit in India and would also hinder the establishment of the Reserve Bank. (For details see my article in the *Leader* of Sunday, 26th March 1933, p. 8.)

Gold Exports.

The Finance Member supported the exports of gold which during the last fifteen months amounted to 107.04 crores. He said that with the present level of merchandise exports India could not support the present volume of imports simultaneously with meeting her external obligations unless they were supplemented by the exports of gold. He claimed that it was beneficial for India to use these reserves which lay idle and did not bring any revenue. Against £ 80 millions worth of gold exported from September 1931 to the end of 1932, Government was able to purchase £70 millions, £ 10 millions being used to repay foreign loans temporarily invested in India. Out of the £ 70 millions Government used £ 34½ millions to meet its own current requirements and 35½ millions to repay sterling loans and strengthen its reserves. Out of the latter the Government used £ 15 millions in repaying the 5½ per cent sterling loan maturing on January 1, 1932, added about £ 11 millions to its currency reserves and about £ 9¼ millions to its treasury balances. He also said that it implied the substitution of one form of hoards by another, namely, investments in Postal Cash Certificates and Savings Bank Deposits which were at the record figure of 10 crores and 4.35 crores respectively. It was also said that the Government could not possibly prevent the individuals from selling their gold at profitable rates outside India.

In connection with these arguments it may be said that to export gold in payment for imports is a dangerous way of living on capital and does not indicate the prosperity of the people, but their helplessness: because they have been able to keep the wolf out of the door only by the sale of gold. Secondly, if investments have increased, it is because the shrewd investor of the Indian money market could not invest his in money industries owing to business depression and this does not mean that the poor have been able to increase their investments. They have in fact nothing to invest. It is the cultivators who have been forced to part with 'distress gold' and by no stretch of imagination can it be said that they have invested their money in the Postal Cash Certificates and Savings Banks Deposits. Thirdly, the export of gold in payment of debts cannot be contemplated with equanimity. We never borrowed money in the form of gold and should not, therefore, pay those debts in gold. For paying only about £ 17 millions of the December instalment, there was so much agitation in England and India, therefore, cannot regard this factor with satisfaction. If the whole of our external debt is paid in gold, probably none of the yellow metal will be left in the country. Sir George Schuster was not voicing Indian sentiments when he said that even if three times as much gold more were exported as was done so far, we would still have more gold than we had 11 years ago. Further, the Government seems to be accumulating sterling securities in the reserves contrary to the recommendations of the Hilton-Young Commission which laid down that the securities should be such the principal and interest of which should be payable in gold and sterling at present is not gold. The argument that by exporting gold India has been able to take more imports and thereby increased the potential power of her own customers is no valid argument. America, France and England and specially the former two countries need this sort of sermon where in spite of large gold hoards in the vaults of banks, nothing is being done to improve the purchasing capacity of their potential customers. Moreover, to say that the Government could not do anything to prevent people from making profits by sales of gold is irrelevant because in 1919 there was an embargo laid on the exports of silver which could have been sold at very high prices in the Eastern markets, but this argument was not remembered at that time. Public memory is short and this fact could not be referred to in the Assembly by the oppositionists. The same thing could

have been done in the interests of the currency situation in the country at present. The Hilton-Young Commission was afraid of a very adverse effect of the purchase of gold by India upon the world markets; but in the past 15 months a golden opportunity came for the Government to purchase gold without disturbing the world money markets and they could do so if they had the will to to do it. So long as retention of gold is the cherished ideal of the Central Banks in the western countries and they allow only the inflow of gold and place restrictions on its outflow, India should also do the same. Gold cannot be regarded simply as a commodity except by the gold mining countries and India must do all that can be done to retain her gold resources.

The *Finance Member referred to the* extraordinary power of resistance of India when he said, 'In the first place, the results as regards imports combined with the figures of Indian production of such articles as salt, kerosene and cotton piece-goods seem to reinforce one of the points which I emphasized in my speech last year—namely the extraordinary power of resistance in spite of diminished purchasing power which India shows in maintaining the consumption of certain standard necessities of the masses.' The Government may derive satisfaction from the fact that Indians are purchasing the same quantity of salt, kerosene and cotton piece-goods as before; but this statement cannot delude the Indian economists who know only full well that the standard of living of the masses in India has reached an irreducible minimum. Is it that the Finance Member could have been convinced of the miserable lot of the masses only if they could not afford to purchase even a commodity like salt? The growing unemployment, the sale of 'distress gold' by cultivators and the miserable economic plight of the masses coupled with the lowest pitch to which trade and industry have fallen in India at *present are not, it seems, enough indications* of the grim realities of economic conditions of India.

The budget should have been balanced by reduction in military and civil expenditure and by keeping the salary bill as low as possible and not by the maintenance of emergency taxation. This would have been real sound finance, but such a step could not even *be thought of by the Finance Member. Our* customs revenue has fallen and our railway *receipts have gone down and with* all emergency taxation measures remaining as before, the surplus of 217 lakhs shown in the revised estimates for the current year will be reduced to a surplus of 42 lakhs, *i.e.*, the situation has worsened by 175 lakhs. And still the Government refuse to realize that the Law of Diminishing Returns has begun to operate. In face of these facts the royal road to sound *finance lies in reduction of expenditure and* not in maintenance of abnormally high level of taxation which is killing initiative, enterprise and paralysing industry, trade and business. The duty of Indian economists is to offer safe and sound advice and its acceptance or rejection lies with the Government.

The Times (Trade and Engineering Supplement) writes:—"Unhappily there is a tendency to defend the policy of free trade in *certain respects without recognizing all the* implications of the theory as a system. There has been no free trade in the trne sense in this country for very many years. Economists rightly regard labour as a commodity like anything else, and yet there must be few persons to-day who would welcome individual freedom in the purchase and sale of labour, though obviously it is a misnomer to talk of free trade in respect of any industry in which there is control of wages. Control of wages *means that in part at least manufacturing* costs are controlled. If, therefore, it is conceded that a minimum wage must not fall below a certain arbitrary figure, it is illogical to permit a foreign manufacturer who pays less to sell his goods on equal terms with the British manufacturer. It is not free trade in any sense if one man is free to do something that another is not, and this aspect of the matter should not be overlooked when complaint is *made that British goods cost more than* foreign. The British consumer cannot have it both ways; he cannot have the advantage of lowest prices and at the same time insist on handicapping the British producer, without swelling the total of unemployment in this country. All this should be very familiar ground, yet how often is this aspect considered when public bodies discuss the question of placing contracts with the lowest tenderer, whether British or foreign labour be employed *in executing it? It seems to be generally taken* for granted that a large volume of unemployment must be regarded as a normal feature of the social order in the future, but the maintenance of those out of work remains a charge on the rest of the community and necessarily falls upon the industries of the country.

A Goods Standard.

By Dr. B. Ramachandra Rao, M.A., Ph.D., F.R.Econ.S., etc.

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The 'gold mentality' of the modern *nations has so warped their power of thinking* that an 'unprejudiced and objective examination' of possible alternatives is not usually *forthcoming. Besides as Walter Bagehot has* pointed out long ago, 'men in high position are incapable of conceiving a far-seeing policy of *monetary reconstruction.' It is no wonder* then that the scheme was sponsored by Mr. Leigh, Secretary of the London Chamber of Commerce.

Really speaking, what one nation receives from another are goods and services. If trade is in essence 'barter', *the function of* money is to act as an 'honest broker'. Gold money instead of facilitating this honest exchange has failed to perform this task in a satisfactory manner.

The gold monetary economy which suited primitive times now no longer satisfies the nations, for it has landed them into a quagmire. For example, if one country makes a technological improvement it means higher dividends, higher wages, greater output and lower prices for the increased goods. Other countries not enjoying this technological improvement would be forced to lower their prices of these goods if they were at all to compete with the goods of the first country. Although more commodities are produced in the first country the prices cannot expand as a result of inelasticity of credit mechanism based on the gold standard.

Apparent overproduction in one industry becomes the cause of the general evil of lower prices and other industries are also ruined as production is being restricted to suit the purchasing power.

Briefly considered, a technological improvement in the gold standard country means underconsumption as a result of lack of purchasing power. If mass production is not followed by mass consumption which evidently cannot be the case under inelastic purchasing power, there is a breakdown of internal economy due to monetary instability to keep pace with the productive factor. In short, the gold standard mechanism does not give full internal purchasing power so as to maintain a stable general price-level specially at a time when rapid technological improvements are taking place on the industrial side. Hence the anxiety of the producers to export their goods abroad and unwillingness to import goods into the country. Poverty amidst plenty has been the resulting feature of the modern gold standard. As production has become stimulated greatly the needed monetary credits cannot be raised as a result of the inexpansibility of the gold basis of credit.

While nations have been thus struggling in vain against the defective gold standard, the new obligation of paying international war debts has been thrust upon the gold monetary mechanism. As payment of reparations and war debts meant only one-sided flow of gold and the pyramiding of gold in the hands of creditor countries like the U.S.A. and France, the debtor countries have been forced to deflate and the wise creditor countries who had the intelligence enough as not to expand their currencies did not make use of the incoming gold. Banking theorists have unjustly accused them for not making use of the incoming gold and playing the game of the gold standard in right earnest. The U.S.A. at any rate wisely refused to sabotage its own industries by raising the internal price-level and permitting foreign industries to enter the American market. So the creation of stable money co-expanding with the actual volume of production cannot be secured easily under the international gold standard monetary mechanism.

Deposing Gold Monetary Economy.

Apart from the fact that gold production is inadequate and fortuitous and as world recovery of trade is indeed remote, the needed willingness to co-operate internationally is not forthcoming. The gold fetish has been overdone. Too high a value has been attached by the respective Governments and the linking of expanding local currencies at the old values to gold base is bound to become an impossible feat. So a new monetary economy is suggested by Mr. A. de V. Leigh. Instead of stepping back to the old monetary regime after deposing gold from it, every country should adopt the goods standard whose salient features can be briefly referred to under two headings.

Each country should have a Central Bank and these Central Banks should meet in a Central Bankers' Clearing House where exchanges would be worked on the old parity. Again all exchanges have to be worked through

this Clearing House alone and Central Banking mechanism at the established rate of exchange. Every local currency will have its fixed ratio of exchange with every other local currency and all Central Banks will be represented in the Central Bankers' Clearing House.

These local states will be free and independent under the new monetary system and rid of the necessity to combine national economic policies with the existence of an overriding international gold standard system which has the unfortunate defect of not being a stable standard of value. The Central Bankers' Clearing House can transfer the claims on the goods of one country to a third and if any return of one country's dues is made, it is in the shape of goods or services into the exporting creditor country. Every import will literally be an order for export and the necessity to send gold on the part of the importing country will not arise. The necessary contraction of currency and the forcing down of prices to a lower level, the reduction of wages and the curtailing of purchasing power which are the usual, indispensable and concomitant features of the gold standard metal need not arise under the new monetary dispensation.

THE WORLD-EQUILIBRIUM.

Under a system where the visible and invisible exports are equal to the visible and invisible imports, an equilibrium level will soon be reached. It might be that in some seasonal times a country might export more but it will lead to mere accumulation of short-term credits on the importing country whose internal economy will not be affected in any other way which would have been the result if the countries were on the gold standard. If one country's general price-level were to be far higher than the point of equilibrium, other nations would not wish to buy from it and it will begin to lose its export trade. It would also lose its export trade, for other nations might not agree to take their payments in its expensive goods and would feel reluctant to have short-term credits in that country possessing a higher general price-level than that of the world equilibrium.

Similarly if on account of low standard of living the general price level of one country were to be lower than that of the world equilibrium, an accumulation of short-term credits on the part of the country would ensue. Unless these are utilized by the country the bank will not agree for an indefinite continuation of this regime and rediscount export bills *ad infinitum* while the rapidly piling up short-term credits are not used by the merchants for importing goods of the debtor countries. Thus an intelligent management of the goods standard is also needed for if the banks fail to exercise their power of refusing to discount further export bills or if the Central Banker does not remind the banks of this duty. Hence the possibility of keeping the general price-level for long below the world equilibrium will never succeed, for the importers' attempt to introduce goods from the low price-level country can be defeated by raising a tariff.

Again the low price-level country cannot import high-priced goods and sell it inside the country, unless mass purchasing power is increased by payment of higher all-round nominal wages. Thus any deviation from the normal world equilibrium is bound to be punished and economic forces will be so exerted that the equilibrium point will soon be reached.

Under the gold standard this could never work so smoothly, for as soon as gold was sent out a deflationary policy was considered inevitable. An inexpansive gold standard means competitive deflation and not satisfied with this evil it has forced the competitive nations to lower the exchange value of their currencies so as to undercut the rival competitors. The external forces which act on the internal price-level of a country are too many in the case of the gold international standard. Under the goods standard the internal general price-level would not become subjected to external monetary causes.

A goods standard means that the supply of credit and currency expands concurrently with the goods factor. Under the gold standard we have already seen that industry is placed in a straight jacket or else forced to sell for lower prices thereby creating further points of disequilibrium in the internal economy of the country. In an age when modern science is fast expanding the quantity of useful goods which people can use to improve their standard of living money or internal purchasing power ought to expand *pari passu* with the increase in goods. It should not depend on one commodity called gold and its possible concurrent expansion, for it might or might not be forthcoming. A goods standard can easily secure the necessary criterion of monetary stability which says that monetary tokens must be just equal to exchange deals in goods. 'Monetary policy should be so planned,' says Sir Basil Blackett

in his new book, *Planned Money*, 'that monetary tokens just equal the exchange deals.' Internal monetary mechanism must expand and contract along with trade activity, while the occurrence of a trade cycle is possible under the gold standard system, a goods standard is immune from it, for new expansion or contraction of credit does not take place fortuitously but only when genuine trade demand or slackness needs it.

If all eligible commercial bills can be rediscounted with the Central Bank while financial or speculative bills are not rediscounted, the above ideal can be easily secured. The Joint Stock Banks must generally lend only for financing current production and distribution and this can be done by securing an eligible bill form which means a definite undertaking to finance current production and distribution. This bill can be rediscounted by the Central Bank and the member bank's account can be expanded with the new credit or Central Bank notes can be issued to the member bank if these were needed by the banker. A fixed fiduciary issue of bank notes can be maintained to make the currency system elastic enough to meet the requirements of the population. On the top of this or super-imposed on this structure there will be additional currency created by the rediscounting of eligible trade bills. The credit currency which can be issued by the Joint Stock Banks can be based on 9 : 1 ratio fixed by law. The bank credit currency can expand to nine times the member bank's cash base which has to be controlled by the Central Bank. The ratio can be subjected to any alteration by the Central Bank if it finds speculation or inflation taking place with the help of financial credit.

The credit controller in the goods standard is this ratio of financial credit. It will take the place of the "old bank rate and open market operations policy under the gold standard". If speculation is going on the old ratio of 9 : 1 it can be reduced to 8 : 1 or 7 : 1 so that financial credit can be drastically curtailed. The Joint Stock Bank can create credit only against member bank cash or its cash reserve in the hands of Central Bank. This can expand only by the rediscounting of eligible bills. As this can be secured by financing eligible bills alone, industry need not be placed in a straight jacket. The internal price-level would be kept in equilibrium with the world price-level.

CRITICISM OF THE GOODS STANDARD.

Though it can be easily conceded that the old defunct gold standard is a misfit in this scientific world, it can be intelligently managed for the time being before the general run of the people can understand monetary matters and allow it to be skilfully manipulated by the experts solely with the object of achieving monetary stability.

The recent war-time experiments with paper currencies have proved that people have no faith in the paper simulacrum. The goods standard means circulating paper money as monetary tokens. The confidence trick cannot be played by it.

As credit is based on currency the proposed working of the internal system of the goods standard is placing the cart before the horse. It is commercial credit based on the eligible commercial bill that will lead to the expansion of currency.

The right to grant credit should not be curtailed as the scheme requires it to be done. The issue of credit is an inalienable right of the private trader or commercialist and modern trade would shrink to an insignificant volume were this right to be curtailed. While the abuse of this privilege might bring disaster on society still its curtailment would be leading to a worse situation.

The drawing of a line of difference between financial and speculative credit on one side and commercial credit on the other is indeed very difficult. The practical safeguard that the eligible bill form which guarantees the utilization of credit for productive purposes conveys might be abused. While the quantitative volume of credit might be controlled by an integrated banking system the qualitative nature of credit depends on the borrower. Private re-lending might defeat the intentions of the credit controller.

The financing of the eligible commercial bill might participate something of an inflationary character and lead to excessive credit. At any rate there is a time-lag between the final creation of commodities and the prior creation of credit during which period further credit facilities would have to be raised.

The ratio or foreign exchange rate is not vitally important but it has to be fixed by the goods standard. Following this the internal currencies must be steadied so as to steady the fixed exchanges. Exchange should and ought to vary with conditions of demand and supply. But this scheme ordains their permanence. It is just like steadying the level of mercury in the barometer without steadying artificially the world conditions outside the barometer. The gold standard also fixes the exchange within par points in

addition to the difficulties incidental to the fixing of exchange ratio under the goods standard.

Although the major exchanges of international trade might be steadied under this scheme for nothing but bank money will be sold and bought internationally a variable rate exists for the negligible business of exchanging national against foreign small bank notes and other forms of currency.

The new scheme means that there is no interchangeability between the respective currencies as in the case of metallic currencies having intrinsic value of their own.

The practical difficulties in fixing paper exchanges are very many though not insuperable. It presupposes that exchanges and prices are being fixed in the interest of external trade which in case of some countries forms only a very small portion. It is the dog that should wag the tail and the tail should not wag the dog.

Unless all countries adopt this goods standard the trade with gold standard countries becomes impeded. At present each country thinks that it is an inalienable privilege to control its credit and currency mechanism in its own interests.

The present-day economic difficulties are not the creation of the gold standard. Monetary difficulties might have aided and accelerated the influences arising out of highly intractable non-monetary phenomena such as tariffs, quotas, exchange restrictions, reparations, war-debts, sheltered wages, and confiscatory taxation. The new monetary policy called the goods' standard will not lead the world out of the wood. It is lacking certain essential features of stable money. A compensating money of contract is needed and this can be secured if the purchasing power of contractual monetary incomes is protected against the effects of a rising retail price-level as long as production and unemployment increase under the stimulus of rising wholesale prices.

An improved gold standard would not render necessary the demonetization of gold needed by the goods standard. No alteration of the existing machinery would be needed if the gold standard can be restored.

This scheme aims wisely for attaining the ideal of international stabilization of exchanges and the synchronic development of production and consumption in national territories.

As this scheme cannot be promulgated on a clean slate the present-day monetary difficulties created by excessive investment by creditor countries cannot be solved. Mutual stabilization credits are needed so as to place the debtor countries on their economic feet. Finally, the uniform application of the tabular standard principle, *i.e.*, an index currency, has to be developed.

Russia experimented with a goods rouble in 1922 and had to very soon abandon it in favour of gold standard currency. The goods standard has to be given up mainly because the accumulated national claims must be convertible into monetary or credit claims without any loss in the foreign country.

MERITS OF THE SCHEME.

The scheme of the goods standard consists in expanding basic currency along with production and creative business requirements of the community.

It aims at the circulation of currency in the hands of masses. This coterminous increase in the quantity of goods and credit (the latter of which is based on the constant circulation of the standard yard-stick currency) would fix values, stabilize prices and aid the maintenance of prosperous business conditions.

The resort to barter basis of trade on which the scheme is conceived is already in existence under the gold standard scheme. The Canadian Dominion has been bartering away excessive wheat for the unwanted coffee holdings of the Brazilian Republic. Russia is supposed to be organizing similar exchanges between its oil and Brazilian coffee.

It makes provision for the control of the expansion and contraction of currency and credit by the central Bank. It takes away this control from the hands of the money-lender and dealer who control the monetary metal, *viz.*, gold. The real producer now stands as the controller and creator of basic currency. The control of gold over nations and men has been a tyrrannous feature depriving every human being of a fair profit and the means to live in comfort during the transitory period of life on earth. As all the monetary gold at present mined would form if melted into a block or cubic mound thirty-one feet long, thirty-one feet high, thirty-one feet wide, it is apparently insufficient to act as standard monetary metal for vastly increasing business requirements of the modern scientific world. It is no use pyramiding credit on a small pin point of gold until it becomes top-heavy and crashes to the ground. The true ideal of banking, namely, the permitting of the entire business of the nation to run on smooth lines, will be secured under the scheme.

The Future of Indian Industries–II.

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Now that the Government of India has agreed to extend protection to the Indian industries, the question arises as to how this policy should be followed in order that it may work for the best interests of the country. With respect to the nature of the Indian tariff the Fiscal Commission observed: "The Tariff, as we envisage it, will be a combination of revenue and protective duties."* In principle, it does not seem possible that a protective tariff can serve the dual purpose of revenue and protection, since protective tariff succeeds only in so far as it prohibits foreign goods from entering the country and thus reduces the revenue accruing from the receipts of customs. But the practical value of the suggestion is quite evident when we realize that in India a large portion of the Government revenue comes from excise and custom-duties. The magnitude of the revenue from these sources can be seen from the following table :—

India's Revenue from Excise & Customs Duties.†
(In 10,000 rupees.)

Year.		Excise.	Customs
1922-23	..	185,52	413,37
1923-24	..	194,05	396,96
1924-25	..	198,99	457,53
1925-26	..	198.27	477,80
1926-27	..	198,27	473,81
1927-28	..	198,22	412,14
1928-29	..	199,77	492,28
1929-30	..	204,12	520,36

With such amounts‡ of revenue accruing from the excise and customs duties, it is easy to understand the financial consideration which led the Fiscal Commission to advocate that the Indian tariff should be a combination of revenue and protective duties. It must be understood, however, that a tariff framed with such considerations in view will defeat its own purpose, because it will not stimulate the development of industries as rapidly as is desired. If India wishes to be a protectionist country, she must do so effectively; half-hearted measures would do her more harm than good, for they would impose a heavy sacrifice upon the country for a long time without bringing the desired results. We, therefore, propose the following main principles which should guide the tariff policy of India.

(1) *Pre-requisites for Protection.*—Although we do not entirely agree with the conditions set forth by the Fiscal Commission, generally speaking, they constitute a fairly good index to determine the legitimacy of the demand for protection. Every industry applying for protection should prove that it possesses natural advantages for its development and that it expects to stand on its own feet after a reasonable length of time.

(2) *The Extent of Tariff*§.—A protective duty, equal to the difference between the cost of production of an article in India and abroad, should be imposed, such difference being carefully determined by the Indian Tariff Board. Such a duty would be just enough to prohibit foreign articles from entering the Indian market and would stimulate their production in India. A periodical revision of the tariff would be necessary, so that, if the domestic costs of production should decrease due to the economies realized by the industry, the duty might be lowered to a corresponding extent. The main purpose of protection should be to stimulate the development of industries and not to enrich the industrialists at the expense of the general public by continuing high protective duties for an unreasonable length of time.

It is likely that, under a strict protective tariff, revenue from customs receipts would decrease, but there is no fear of its being entirely wiped out. Even under the most rigorous protective tariff there is a possibility of

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*Quoted by Shah, K. T., *Trade, Tariff and Transport*, p. 286.

†Date from *Finance and Revenue Accounts of the Government of India.*

‡Mr. Ghai has calculated that receipts from excise and customs duties constitute 30 per cent of the total revenue of India. (*Finances of the Philippine, Korea and India*, p. 39.)

§Mr. Manoilesco observes on this point: "*A priori* no limit could be prescribed to the degree of protection which might be granted to certain goods." He favours even a duty of 200 per cent on the ground that it "would establish equanimity with foreign prices and would allow the production of the goods in the country." (*op. cit.*, p. 136). Such a rigid adherence to protection, however, is likely to prove harmful to the interests of a country.

some revenue to the Indian treasury.* And the amount of customs receipts may be increased by discriminative duties imposed upon the general imports of necessary goods and luxuries.

(3) *Duration of Protection.*—How long the protective duties should be allowed to operate is a difficult question to decide. On this point Professor Lees Smith observes: "Under present conditions no industry should remain in the infant stage for more than fifteen, or at the most twenty, years. It should be clearly laid down to be the limit of the protection."† Professor Taussig, on the other hand, believes: "The length of time to be allowed for the experiment should not be too brief. Ten years are not enough; twenty years may be reasonably extended; thirty years are not necessarily unreasonable."‡ In addition to these arbitrary limitations to the length of the duration of protection, we have still another view expressed by Mr. Crompton. He says: "Mill evidently thought two generations more than enough. Is a century too long? Can one cite instance where these infants have grown strong in any country?" And further: "It took several centuries for England to catch up with the Flemish woollen industry, despite the great help her woollen manufacturers received from legislation and from many extraordinary events working very much to her advantage."§

Hard indeed is the problem of deciding just how long the protective duties should last. "Once an infant, always an infant" is a much-quoted phrase. While no definite limit to the protective period can be stipulated, there are certain tangible tests which can be applied to the development of an industry. For instance, when a certain industry has acquired the dimensions of a large business unit and operates at its maximum capacity, there must be something inherently wrong with it if it still cannot stand without the props of protection. The protective duty, therefore, should be withdrawn when an industry has attained the full development expected of it, because thenceforward the continuation of the duty is an unjust burden on the community. It must be understood, however, that protection, even in the case of fully developed industries, should be withdrawn gradually so that they may have ample time for readjustment.

In the case of the "Key" and war-time industries, continued protection, if needed, is advisable; such industries must be kept alive even at a considerable sacrifice so long as the international situation remains what it is. Dependence on foreign countries for the products of such industries may involve a nation in a serious situation when something unexpected happens. Such a dependence, therefore, should be avoided under all circumstances.

(4) *Excise Duties.*—A protectionist India should have no place for excise duties in her tariff schedule, because the effect of such duties is to retard the development of domestic industries, a thing which no nationally interested man can tolerate.

(5) *Export Duties.*—An export duty is advisable only in the case where a country has a monopoly in the production of a commodity, such as is the case of jute production in India. While a carefully devised export duty may bring a handsome tribute to the Indian treasury, it may prove harmful if carried to extremes; for in that case foreign countries will be forced to seek substitutes rather than continue to import highly taxed article, and the domestic industry will consequently suffer without bringing a compensatory reward to the national treasury. Much foresight and care, therefore, should be used in imposing export duties.

(6) *Dumping Duties.*—When India adopts a strong protectionist policy, all sorts of mischief can be anticipated from her foreign competitors, who would like to defeat her protectionist endeavours. Dumping, in such cases, is very common. Foreign competitors can sell the products of their highly developed industries in the Indian market at rather low prices even though it may involve a temporary loss to them. When, therefore, a legitimate case of dumping is found, an extra duty, known as the "dumping duty", should be imposed upon the articles concerned, such duty being sufficient to nullify the effect of the dumping policies of foreigners.

(7) *Trusts.*—Protection is usually said to be the mother of trusts, but this is true only of a wrong kind of protection. "The right kind of protection is that under which the growing industries of a country receive the necessary stimulus and encouragement and

*The financial history of protectionist countries bears witness to this effect. U.S. customs receipts from 1923 to 1930 have varied between $545,637,504 and $605,499,983. (*The World Almanac*, 1932, p. 346.)

†Lees Smith, H. B., *op. cit.*, p. 83.

‡Taussig, F.W., *Some Aspects of the Tariff Problem*, p. 22.

§Crompton, G., *The Tariff*, pp. 126-27.

support that they require, but under which care is taken that no influential combinations, prejudicial to the interests of the community, come into existence."* India should, therefore, exercise proper care against the formation of trusts harmful to the interests of the general public. Protection should be withdrawn when its privileges appear to be misused and legislation should be enacted to prohibit the creation of trusts.

The formation of trusts is not always detrimental to the general interests of the country; for, quite often, it is intended to secure economies which are possible only under a large-scale business unit. Therefore, the actual effects of trusts on the welfare of society should be carefully determined before any action is taken against them.

(8) *Vested Interests.*—One of the strongest objections to protection is that once instituted it gives rise to so-called *vested interests*, which always raise a loud cry when the question of its withdrawal comes up for consideration. It is true that sometimes their claims are legitimate and should be protected, but in most cases they are responsible for the everlasting perpetuation of the protective system. Under scientific protection, vested interests should be given no special consideration. If after a reasonable time, when the industry is sufficiently developed, it is discovered that it cannot stand without protection, there is no reason why the country should be forced to pay tribute at the altar of protection without receiving its intended advantages. India will do well not to allow such weakling industries to perpetuate their existence on the pretext of vested interests and thus subject the consumers to unnecessary taxation.

(9) *Foreign Capitalists.*—When India goes protectionist, it is likely that foreign capitalists will be tempted to establish factories within the Indian borders; thus they will be able to exploit the Indian resources and people to their advantage and to compete with the domestic industries. This is absolutely out of the domain of scientific protection. Protection involves sacrifice on the part of the country which adopts it, and consequently its advantages should accrue to the nationals who have to pay for them and not to alien capitalists. The Government of India, therefore, will be justified in enacting a legislative measure regulating the conduct of foreign capitalists. Foreign concerns should be required to employ a certain percentage of Indian capital and directorate.

We must confess, however, that there should be no discrimination against the employment of foreign capital in the development of Indian industries. Foreign capital should be welcomed whenever it is needed and can be had on reasonable terms either by private institutions or by the Government.

The term "foreign capitalists" should apply to the British capitalists in the same sense as it would to the capitalists of other countries. The industries which are now owned and controlled by foreigners should be transferred to the Indians under proper arrangements.

*Gokhale, G. K. Quoted by Kale V. G., *Indian Industrial and Economic Problems*, pp. 191-92.

A London correspondent writes:—A new turn has been given to the road-rail controversy by the decision of the railway companies to offer largely increased facilities for cheap travel during the summer months. The announcement has been regarded by a large number of proprietors of motor coaches as a declaration of war, and consideration is being given by them to the steps which they can take to counteract its effect.

As was generally expected, the railway companies have rejected, for the present at any rate, any idea of reducing their standard fares, and have confined their efforts to win back passenger traffic to an extension of the cheap fare facilities which have been forced upon them gradually during the last few years. A reduction of the standard fare must inevitably have been a gamble, particularly as past experience has been that increased traffic following the reduction of fares has not been sufficient to make up the loss sustained through the reduction. Had the railway companies decided to reduce the standard fare they would have had to secure the consent of the Railway Rates Tribunal, and if later they found that as a result of the change they were worse off financially the consent of the Tribunal would be necessary before they could return to the old standard. By extending their cheap travel facilities the companies have left themselves at liberty to return to existing conditions if the experiment is not successful.

The External Obligations of India.

By Dr. D. L. Dubey, M.A., Ph.D.

The above is the title of an address which Mr. Nalini Ranjan Sarker of Calcutta delivered to a College audience in December last and which has recently been issued by the Book Co., Ltd., in the amplified form of a pamphlet for the benefit of the wider public. Mr. Sarker is a distinguished businessman of Calcutta. Recently he was serving on the Indian Central Banking Enquiry Committee as a nominee of the Federation of the Indian Chambers of Commerce and Industries. His views on a subject like the present one, based as they are on a wide and first-hand experience of business problems, are naturally entitled to great weight. A discussion of India's external obligations, moreover, needs no apology at the present moment when a part of the safeguards in the forthcoming constitution is intended not only to protect but also to perpetuate the existing rights and privileges of foreign nationals in this country who hold investments here.

Mr. Sarker starts by dividing the external obligations of India into four broad sections: (1) debts owing by India on account of the borrowings of the Government of India; (2) "Home Charges" represented by interest on foreign loans as well as expenditure on account of the civil and military services: (3) debts of quasi-public bodies like the Municipalities, Port Trusts, etc.; (4) liabilities of India on account of foreign commercial investments in the country. The sterling debt of the Government of India was about £120 millions in 1900, £247 millions in 1914, £363 millions in 1930 and on the 31st March 1932 it stood at about £381 millions. The amount of rupee enfaced paper, *i.e.*, the section of rupee loans on which interest was paid in London, amounted to nearly 8¼ crores on the last date. The "Home Charges" stood at Rs. 30.46 crores in 1913–14, at Rs. 46.52 crores in 1922-23, at Rs. 36.87 crores in 1925-26 and at Rs. 44 crores in 1932-33. Local bodies like Port Trusts and Municipal Corporations owe to the London Money Market a sum of nearly £13 millions. There is a dispute as regards the amount of foreign commercial investments in India but Mr. Sarker puts them at £650 millions. The total foreign capital invested in this country thus comes to the colossal figure of 1,400 crores of rupees.

The foreign debt of a country affects its external trade, international credit, foreign exchanges and even its internal finances. I agree with Mr. Sarker that while in certain ways foreign capital does confer some benefit on India, its uncontrolled influx into a country may seriously endanger its economic and even its political independence. The heavy recurring charge imposed by the existence of external obligations is easily liquidated in times of prosperity when there is a favourable balance of payments, but it is difficult, sometimes almost impossible, to manage for such charges when trade shrinks and prices fall. No occasion for default has arisen in the case of India but borrowings have sometimes been made to meet these payments abroad, and on the present occasion the exports of gold are takiug place to serve the same purpose.

Mr. Sarker computes the total recurring annual charges of our foreign obligations at a hundred crores of rupees for the payment of which India requires a constant visible balance of trade at least equal to this amount. If we accept this reasoning, India, as the following figures will show, has not been in a position to provide that amount by her visible balance of trade in the last quinquennium:

India's Visible Balance of Trade.

	Crores.		Crores.
1927-28 ..	49.78	1930-31 ..	37.62
1928-29 ..	52.11	1931-32 ..	90.48 (Including exports of *gold valued at 58* Crores.)
1929-30 ..	52.78		

These figures undoubtedly reveal a condition of almost chronic inability to meet our recurring annual obligations, but it must be borne in mind that a large proportion of the profits earned by foreign commercial investments is *really* reinvested in India and moves away from this country only occasionally under conditions of great nervousness. In fact, I have it on the highest authority that the real influx of foreign capital into business in this country is very much smaller than its reinvestment; the former bears only a small proportion to the latter.

Mr. Sarker has discussed in some detail the character of recent sterling borrowings and the question of the provision for debt redemption which I have also discussed in my publication, "The Indian Public Debt". Later on he proceeds to say: "These external obligations exert strong influences upon India in diverse ways. Apart from their heavy

burden upon the country's finances and ultimately upon the tax-payer, they constitute an important factor in determining the balance and direction of our trade. The rate of exchange and through it the level of prices within the country are often swayed by considerations attending these foreign obligations. They have largely destroyed our economic independence and accentuated our political subjection. If this country is to regain her economic freedom and status in the world and to continue the uninterrupted development of her internal economy, some settlement of these vast obligations is imperative. In short, we must pay back these enormous amounts that we have borrowed." I agree with him that the first preliminary to repayment is to stop all further borrowing unless it is absolutely necessary. Present high rates of recent loans should be revised by taking advantage of the easier monetary conditions in the London Money Market. I do not know why it did not strike Mr. Sarker, but I think it is time that we requested the British Government to forego the remaining £16 millions, the amount due from us in connection with the 5 per cent War Loan. That will give us a very timely relief. All shades of public opinion in this country have urged that all future recruitment to public services should be stopped in England: even then it would take more than a generation to effect any substantial reduction in the amount to be paid as "Home Charges". Pensions of ex-British officers should be commuted. The suggestion of Mr. Sarker in this connection that some settlement be entered into with the British Government with regard to the future payment of pensions of retired British officials deserves the serious consideration of statesmen both in England and in India, alike in the interests of India and the beneficiaries. There is no doubt that some sort of plan will have to be framed with a view to progressively reduce, and finally to extinguish, at least the official part of our foreign obligations. I doubt if the same methods can be equally effective in the discharge of our commercial obligations. One thing, however, we desire to make unmistakably clear. The only ultimate method of discharging our foreign obligations is to adopt methods for the purposes of stimulating our export trade; but will these obligations continue to multiply in the meantime? There is only one reasonable answer to that. You may allow the continuance of the existing rights to the present foreign capitalistic interests, but the determination of the future economic policy should be essentially a matter solely for the decision of the Indian nationals. Some sort of rules have to be framed for the regulation and control of the commercial investment of foreign capital in this country if future exploitation of the resources of this country has to be stopped at any stage.

The American scientists, Professors Warren and Bancroft, have successfully produced rain in a series of experiments based on the natural process which takes place in the upper atmosphere. Moisture is always present in the upper atmosphere in the form of minute drops so light that they remain in suspension. When particles of dust come in contact with the drops of moisture they are absorbed, thus increasing the weight of drops. As a result of their electric charge (positive or negative) the particles tend to become aggregated into masses too heavy to remain in suspension and then fall as rain. Thus, clouds formed of vapour too light to fall as rain may be artificially weighted by electrically charged dust and immediate rain produced.

Acting on this theory, says the *Agricultural Gazette* of N. S. Wales, a load of electrically charged sand was dropped from captive balloons on to clouds. Rain fell immediately. Professor Bancroft calculates that 40 lbs. of electrified sand would be sufficient to dissolve into rain 1 square mile of clouds.

In subsequent experiments an aeroplane was used carrying sand with a charge partly positive and partly negative, of 12,000 volts. The machine rose and disappeared among the clouds while spectators below awaited the miracle, which proved even more dramatic than before. The clouds burst in a violent shower of rain, while at the same time the sky cleared and the sun shone again.

In the Netherlands Professor Veraat has succeeded in producing rain over an area of about 8 square kilometres by throwing finely divided 'dry ice,' *i.e.*, solid carbon dioxide, from an aeroplane on the clouds. Similar experiments had been tried previously by various scientists using powdered kaolin, but had not given satisfactory results. Professor Veraat rose to a height of 2,500 metres in an aeroplane carrying 1½ tons of 'dry ice' and fitted with a special spreading apparatus; he then let the powder fall on the clouds 200 metres below. Abundant rain immediately fell. The experiment was officially controlled by observers in four military aeroplanes.

Lancashire and India.

By Robert W. Brook,

Formerly Editor, *The Capital*, Calcutta.

If the new Cotton Trade League is to justify its establishment by initiating and securing the adoption of measures calculated to revive Lancashire shipments to the Indian market its initial task is clearly to secure an accurate appraisal of the actual economic and political situation in India. This must be the essential foundation for all subsequent activity, including the formulation of a programme likely to win the acquiescence, if not the active approval, of the Indian mill industry and, in any event, the support of the Indian Legislature. What are the facts ?

1. It is not possible, as a matter of practical politics, on the eve of the establishment of a Federal Constitution, for the British Government to revoke or even modify the convention operative for some years past, the effect of which has been to confer on the Government of India, in conjunction with the Indian Legislature, joint and complete control over Indian fiscal policy.

2. It is not possible, even if the Government of India were prepared to recommend such a *volte face,* to induce the Indian Legislature to abandon the policy of "discriminating protection" under which the Indian mill industry, in common with many other Indian industries, is receiving fiscal assistance.

3. It is not possible to secure substantial support from any political party in India in favour of any programme calculated or designed to prevent the progressive expansion of the Indian industry to the full limits of its possible development.

Effective discussion can occur only on the basis of full and frank recognition of the three limitations thus disclosed.

The mill industry in India is not being protected solely in the interests of mill shareholders, but as an item in a general programme of industrial development framed, and supported by the Indian Government and Legislature, in order to conserve Indian resources by manufacturing locally materials formerly imported, as well as to add to the variety and volume of employment available to the educated and working classes. The contention that India is, and must always remain, a purely agricultural country is not accepted by articulate opinion in India, and never will be.

If justification for that attitude is demanded it may be found not only in the addition of 32,000,000 to the population of India in the decade ending 1931 but in the cataclysmic decline in the world values of Indian agricultural produce, which has halved the value of Indian exports within the short period of three years, has doubled the real burden of agricultural indebtedness (about £750,000,000) in the same period, has forced a 50 per cent increase in taxation in order to maintain the balance of the Indian Budget, and finally has reduced the import trade to its present relatively diminutive dimension, mainly as the result of the decline in purchasing power traceable to the disastrous decline in Indian exports. In reality the position is even more serious than these statements suggest, owing to the fact, underlined by the Indian Finance Member at Ottawa, that but for the abnormal shipments of gold India would have been forced to reduce the value of its total imports, cotton goods included, to about 60,000,000 sterling, with disastrous effects on the Indian Budget, owing to the circumstance that 50 per cent of the tax-revenue of the Government of India is derived from Customs duties.

This is the economic and financial background in India, and its reaction on the cotton trade is too plain to require elaboration. The cotton trade is not an isolated trade, and its fortunes cannot be separated from the general economic fortunes of India as a whole. Until world prices of Indian agricultural exports are restored to approximately the pre-slump level Indian purchases of external manufactures will remain on their present low basis, and imports of cotton goods must share in the general decline. Unlike many other countries, India has not defaulted or delayed in meeting her oversea debt payments, etc. which figure in the Indian Budget at about £30,000,000 per annum and the smaller the total value of Indian exports the smaller is the balance available, after meeting interest and pensions charges, to purchase imports and pay for "services".

In such a situation the primary need is clearly to revive the purchasing power of India, and if Lancashire can exert any influence in that direction it will help not only India but herself. So long as the world is prepared

to purchase Indian produce only on the present low scale of values India can only react by curtailing its own purchases of world produce *pro rata*.

The most direct and immediate assistance Lancashire could extend to India, and indirectly to her own mill industry, would be increased utilization of Indian cotton. Full acknowledgment may be made of the practical difficulties, commercial as well as technical, hindering any considerable displacement of American by Indian cotton, but it is also certain that no measure would make a more profound or favourable impression on Indian opinion or assist more directly in restoring the purchasing power without which no revival in Indian purchases of cotton goods is possible.

The Indian millowners are at least as anxious as those of Lancashire to limit the importation of Japanese cotton goods into India, but while mill interests in both countries are directly concerned only with their own turnover the Government of India has to take a wider view, and its attitude will be influenced largely by the readiness displayed by Lancashire, as soon as may be practicable, to take the place, as a purchaser of Indian cotton, hitherto occupied by Japan. There has admittedly been a close connection between the Japanese purchases of Indian cotton and the reverse shipments of Japanese cotton goods to India, not only in the broad economic sense but in the structure of the Japanese commercial and industrial organization, and if Lancashire is to displace her Far Eastern rival she must, to some extent, follow the same methods—namely, first by creating the necessary purchasing power, then by exploiting it.

The Japanese cotton industry has for many years spent much more money in India than it has taken out of it (in 1930-31, for example, it paid 21 crores for Indian cotton, against under Rs. 8 crores spent by India on Japanese cotton manufactures), whereas Lancashire purchases are negligible. It is perfectly true that the commodity exchanges between this country and India now more or less balance, but including debt commitments and payments for "services", the balance is still in our favour in the sense that India still has to utilize part of the proceeds of her sales in foreign countries to round off the payments made by her in this country. Doubtless that is inevitable to some extent, but the fact remains that larger purchases of Indian produce by this country would add appreciably to the strength of our trading position in India by helping to off-set losses incurred in other directions.

Finally, in view of the increasing ability of the Indian industry to meet domestic requirements, maximum imports of cotton piece-goods into India in future are unlikely to exceed 1,000,000,000 yards, and the share of this trade which may be expected to fall to Lancashire depends mainly on the measures taken to exclude competitive imports from Japan. There is a basis for a common policy here by the Indian and Lancashire industries, and there does not appear to be any insuperable obstacle to the formulation of a working agreement to be negotiated by the representative association of the two industries and embodying provisions facilitating periodical revision as and when conditions change, or, alternatively, within a specified term. No agreement comparable to the Indo-British steel agreement was reached at Ottawa because the Indian Delegation did not include an authorized spokesman of the Indian industry.

Direct negotiation, however, still remains possible, and the impending report of the Tariff Board on the Indian industry should afford not only an appropriate opportunity for such a discussion but also the data requisite as the basis of a friendly and durable agreement. Complementary production is now the accepted principle, and no industry in the Empire offers more favourable conditions for its application and exercise. It would be a welcome corollary of the Indo-British political concordat now in sight if such an economic agreement could be achieved, linking in profitable co-operation the leading manufacturing industries in both countries.

Construction of a paper mill has just been started in Kenya Colony at Nairobi. Chile is now to manufacture her own newsprint, a new mill having just started assisted by Government subsidies.

The discovery of new materials for paper-making seems endless. A French firm is experimenting with seaweed, a Japanese firm is using mulberry waste, and Sweden has a mill producing cellulose from straw.

Re Untouchability, it might be said that religion and morals are involved in it in inextricable fashion, but is there any problem which cannot be solved by reason and kindness ?

The White Paper.

By Sir M. Visvesvaraya, K.C.I.E.

The proposals in the White Paper, while paying meticulous attention to the safeguards deemed necessary *for special interests*, have entirely ignored the need for correctives in the new constitution to mitigate the disabilities of the people of India as a whole and have failed to recognize the dangerous poverty *in which* the country finds itself on the eve of these projected reforms.

There is a fringe of rich men including land-holders, businessmen and money-lenders but the great bulk of the population is extremely poor. The average *per capita* income, it is recognized, is only about one-twelfth of that in the United Kingdom or one-twentieth of that in the United States of America.

Over 72 per cent of the population derive a meagre livelihood from agriculture which is their principal industry and this population has long been suffering *from short employment*. The business life of the people as a whole has remained unorganized. The number of persons dependent on land for a living has been growing and at present it is about double what it should be according to the experience of countries in which occupations are regulated by considered policies. One of the most baffling problems awaiting solution in the near future is how to get the country out of this occupational mess that it has got into and how to raise the general level of production, occupations and income to mitigate the hardships of our impoverished population. To achieve these objects, organization on a large scale is necessary and support from the money power of Government will be indispensable, but the proposals in the White Paper are not such as to encourage such developments or put hope in the people.

Sir M. Visvesvaraya, K.C.I.E.

INDIA'S ECONOMIC POSITION.

Due to unfavourable policies, about nine-tenths of the population continues to be illiterate.

Since India is a market for British goods, local industries have failed to make any headway.

No provision is made on a reasonable scale to give training in self-defence.

Though there have been minor gains in various directions, the net effect of these three deficiencies, namely, neglect of education, industries and military training has been to reduce the country to a position *of weakness, inefficiency* and impoverishment to which there is no parallel in Western countries.

There has been no policy, no conscious effort, to guide the people to be self-sufficient even as regards their primary requisites and as a consequence, *enormous sums of money taken* out of their scant earnings from agriculture have been going out of the country to pay for *cloth, steel, salt*, and other like necessaries which are being imported.

There are no adequate statistics maintained to give an idea of the magnitude of the unemployed population, the value of products grown or manufactured, the sufficiency or otherwise of food supply in individual provinces, the extent of foreign and local capital invested in business enterprises and other data calculated to awaken the people to a sense of their weak and dependent position.

The linking of the rupee to sterling and the resulting high and fluctuating exchange have caused grave injury to the present population who are steeped in debt. While Indians have

no investments abroad worth mentioning, India has become a debtor to England and this indebtedness is growing from year *to year.*

If you ask the present Government for extension of mass education, they say there is no money, but they are not inclined to suggest alternatives or encourage private effort. If you ask for adequate statistics, again they make a similar answer. If you ask for industries or occupations for the people, they either take no notice, or shelter under some plea or other, the plea, for instance, that *industrial growth depends on certain "psychological factors inherent in the habits and customs of the people for which from the nature of the case no Government can find* a panacea".

Lack of Policy.

According to the Government authorities themselves, there has recently been no policy or organization for the production of wealth. The Government's sole concern has been to maintain peace. It has been a 'law and order' or policeman's Government and its only effect has been the growth of population by about 100 million within the past 50 years *without a corresponding increase in wealth or income.*

When a responsible Government comes into existence, it should work with a dominion outlook, if it wishes to be trusted; and its viewpoint, save in respect of law and order, should be totally different from that of the present Government. It should start work by placing before the country a list of urgent ameliorative measures and reforms, and a provincial economic plan. In regard to the outlook, the methods of functioning of the various departments of Government, the present *Dependency* forms should give place to those of a *Dominion.* It will be necessary, for instance, to bring into existence a National Economic Council at the seat of the Government composed of leading industrial experts and agriculturists, businessmen and bankers from all parts of India to advise in regard to the country's trade and industries and economic interests generally. Associated with the Government and the Economic Council respectively, there should be two parallel organizations, one governmental and the other public, in every province, state, city and district, working with a common purpose to stimulate production from industries and agriculture and to promote trade.

Four Fundamental Modifications Required.

In the light of the above considerations *and comments, the following four modifications seem indispensable to make the proposals in the White Paper acceptable to the great majority of the Indian people.*

Powers of the Governor-General and Governors.—The powers of the Governor-General are so wide that any independent move on the part of the Federal Cabinet could be arrested on one pretext or another. The Legislatures will not be able to take any new departments in public policy and the Ministries which in a manner will exist on sufferance, can attempt nothing big in the way of ameliorative measures.

The Governor-General and the Governors, being the trusted custodians of British interests *and armed as they will be with exceptional* powers, will be tempted to discourage indigenous enterprise and keep the administration to its present sterile routine.

If this happens, the break from the Dominion ideal will be complete. In Canada the King's *representative stands aloof from all party contentions and his attitude on political* questions is absolutely non-partisan. Under the proposals outlined in the White Paper, the Governor-General and the Governors in India will occupy a position of open partisanship.

The remedy is to confine the duties, responsibilities and functions of the Governor-General and of the provincial Governors to those assigned in the Dominions except in the case of the safeguards and special powers to be conferred on them for the transitional period at the commencement of the new form of Government. These special powers should cease at the end of 15 years in the case of defence forces and in 10 years in respect of all other safeguards.

Organization for Defence.—The first consideration of any new Government should be to effect drastic cuts and bring down the aggregate cost of the defence forces of India. What seems most strange is that the military forces of a Dependency should cost Rs. 50 or 55 crores yearly, while a great military power like Japan can carry on with a yearly outlay of about Rs. 45 crores and the Dominion of Canada with less than Rs. 5 crores. The assurance given in the White Paper that defence will be increasingly the concern of the Indians in future does not carry the matter very far. The Indianization of the army should proceed on a regular programme and time table and be completed within fifteen

years. There should be a separate Army Minister assisted by a National Council of Defence to build up the new military organization needed. This appointment should be in addition to the Counsellor proposed for the Defence forces working directly under the Governor-General.

Control over Finance.—Unless the responsible Federal Government is given full control *over the country's finances, after guaranteeing* during the transitional period the payments included in Consolidated Fund, there will be no scope for constructive policies to advance *the interest of the people and the* very *raison d'etre* of reforms will be frustrated. A National Government trusted by its legislature should be able without any interference from London direct or indirect to lower the scale of salaries, effect retrenchment in public expenditure and raise locally or otherwise much of the capital needed for industrial and other business enterprises. The proposed Reserve Bank to regulate currency and exchange should be *constituted with the consent and under the* authority of the Federal Legislature and the Railway Board which handles a gross revenue of over Rs. 100 crores should come automatically under the control of the new Legislature.

Control of Fiscal Policies.—Similarly the future responsible Government should have full *control over its fiscal policies if* India is to have any real chance of improving her general material well-being. As the proposals in the White Paper stand at present, help *to indigenous banking, shipping and railway* enterprises, for instance, is likely to meet with opposition from the point of view of finance on one side, and on the ground of racial discrimination on the other.

Similarly the present tariff policy is halting and half-hearted, and the discriminatory protection now given is not dependable. In Canada, for instance, between 1871 and 1911 the Dominion Government gave '32 years protection for all manufacturing industries and 28 years of bounties for the iron and steel industry' and much valuable direct and indirect aid was afforded to industries by hundreds of municipalities in Eastern Canada. Protection on a similar liberal scale will be needed in the case of India. The problem everywhere ini ndustry to-day is to find a market for its products. Judging from the protests which have come from industrial centres like Lancashire, the British rulers expect Indians to stultify themselves by keeping their home market freely open to the industrial products of Great Britain. The capital issues in Great Britain, sometimes in a single year, exceed the entire capital hitherto invested in joint stock enterprises *in this country, and the British traders are* the strongest trade rivals India can have. The prospects of industrial revival in these circumstances are very remote.

If the proposals under the four heads mentioned are modified to the extent indicated, *the bulk of the unfavourable features will* have been eliminated from the White Paper scheme.

Some Less Important Changes.

In what follows, a few, among the other less important changes needed, will be briefly referred to:—

The foreign trade of India and foreign travel by Indians require special encouragement. To ensure this, it is necessary that the *portfolio of Foreign Affairs*, though during the period of transition under the control of the Governor-General, should be entrusted to *an Indian Minister.*

That Indian States will enter the Federation under certain conditions is made clear but there is a whole group of questions affecting the States whose solution is left to conjecture. In all the Round Table Conference discussions the Princes were reckoned as owning their *people, body and soul,* while British India is marching towards autonomous Government. The States' representatives will have a voice in the control of federal revenues and affairs *which they did not have hitherto but the* powers of supervision of the Central Government over the States will be divided between the Viceroy and the Federal Government proper. The Federal Authority will act in the States in federal subjects and the Viceroy may interfere on the plea of paramountcy itself undefined. Nothing is said as to whether the States' representatives to the Federal Assembly will be chosen by election, and whether or not legislatures will be established within the States for electing representatives to the Federal Council of State.

At a time of great constitutional advance like this, it is usual to obliterate old time privileges, monopolies and inequalities, as far as possible, and start with a clean slate. The Federal Government must know no distinction of class, creed or possession if it is to be united and strong. In this sense, *the Communal Award is unfair to the majority* community and prejudicial to the future harmonious working of the constitution.

There is justifiable discontent regarding

the franchise for women and the position assigned to them in the new constitution, but further consideration is promised in the White Paper and the matter cannot be regarded as closed yet.

Some doubt is still left regarding the date from which Federation will come into existence, the date being made dependent upon the accession of Princes and the establishment of a Reserve Bank. There should be no insuperable difficulties in this respect if only Government make up their mind.

The only other important point to which attention should be called is the omission of any provision in the statute laying down a clear procedure for the automatic development of the new constitution.

If a transition period is fixed as suggested above, namely, 15 years for the complete transfer of defence and 10 years for all other safeguards the way will be made smooth for concessions in a liberal measure in respect of British trade investments and service interests and also British co-operation.

It cannot be said that there is anything either unreasonable or extravagant in the modifications suggested, but it is very doubtful whether the association of Indians with the Parliamentary Select Committee will secure these improvements for the country.

Professor K. T. Shah delivered an interesting lecture recently on "The World Economic Depression", at Vizagapatam with Mr. B. Venkatapathi Raju, C.I.E., in the chair. Professor Shah said that the first thing that would occur to any student of world economic conditions was that the present economic depression was the aftermath of the Great War. The Great War consumed large quantities of material wealth and commodities in the shape of powder and shot leaving nothing substantial behind except woe, as the legacy of wasted material and wealth and energy. The Allies expected that they would obtain the wherewithal from the defeated nation for making good their wastage. But the defeated nations had also their own heavy burden of the War wastage to bear and they felt that it was impossible for them in their ruined condition to bear any further burden on account of the losses of their ex-enemies. It was nevertheless fixed by the Versailles Treaty of Peace that the wastage of the belligerent nations of France, England, Belgium and Italy must be made good by Reparations obtained from Germany. These Reparations were fixed in terms of money at such an absurdly high figure and with the conditions so very impossible of fulfilment, that whatever miraculous development Germany might suddenly have, she could not fulfil the terms of the Treaty. The resources of Germany did not suffice to create any surplus with which the old burdens could be lessened, and in so far as Reparations were demanded and exacted according to the programme prescribed in the several conferences, those Reparations were paid out of fresh borrowings, and so the obligations began to be very intensive. The Allies also contracted short and long term loans inside their own countries as well as outside on the strength of the future payments by Germany of the Reparations. Thus was the house of cards of international credit built up, resting on nothing substantial but on simple paper promises.

Professor Shah then dwelt at length on the history of the Reparations question, and the war debts of the Allies to America, showing their inter-connection, the Allies depending on the receipt of Reparations payments by Germany to pay off their debts to America and Germany's inability to meet her Reparations payments, the crisis in September 1931 when England found herself unable to pay her creditors consequent on Germany's inability to pay the Reparations payments and President Hoover's moratorium and England finally going off the gold standard. He concluded by saying that the world economic depression was there not because human talent, technical skill and scientific advancement were very low, but on account of the greed and folly of a few nations. The canker of the depression was not such that it was incurable, provided there was the will and determination to break it through. India had absolutely no business to suffer on account of the depression except that she was guided by the economic folly of another nation.

The Government of India are considering the possibility of amalgamation, for the modern trend in progressive countries is to bring about unity of control. Recent cables have shown how the United States of America intend to secure the merging of all American railways into six or seven regional groups and to appoint "dictators of railways" under a federal co-ordinator in order to economise working expenses.

Fragmentation and Sub-Division of Holdings in Mysore.

By D. Krishna Iyengar, M.A.

The standard of life in an agricultural country would be fixed by the economic consideration of the size of the holdings, along with the nature of the farming attempted therein. But in practice, the standard is different in different countries and it varies in accordance with the pressure of population, laws of inheritance and various historical causes. It is observed that varying size has been fixed for "an economic holding" ranging from a quarter of an acre to ten thousand acres. In Japan where the peasant "wields his hoe" from morning till sunset, has a holding of only two acres on an average: whereas the "economic holding" in England is said to be two thousand to ten thousand acres and in U.S.A. it is 160 acres for dry farming, and 40 acres for wet and irrigated farming.

The problem of sub-division and fragmentation of holdings presents itself in almost all agricultural countries of the world. It occurs in France, Switzerland, Denmark, Germany, Japan and India. Various remedies, however, have been adopted to rectify the evil in all the Western countries. In India the problem presents two features. The first is, the holding tends to become very small; and secondly, the individual holding comes to consist of several pieces scattered in different places. In other words, both sub-division and fragmentation of holdings are at work and occur at frequent intervals.

"Sub-divisions of holding means the distribution of the land of a common ancestor among his successors in accordance with the laws of inheritance." It is also effected by transfers, sale or gift, among the people living in the same locality. But fragmentation is quite different from sub-division and it "refers to the manner in which the land by an individual is scattered throughout the village area in plots separated by land in possession of others." It is said to be fragmented if an individual has four or five acres in thirty different places.

The discussion of this subject deals with the area possessed by persons with some kind of permanent hereditary right in the land. But there are landlords who do not cultivate but grant it for lease. On the one hand, there are persons who cultivate the small bits from year to year, and on the other there are persons who own small bits of lands which would tend to become smaller in course of time. The former class cultivate land belonging to others without any permanent right in them whereas the latter may cultivate their own lands and theirs is called right holders' holding. Any measure to stop the sub-division of holdings would not stop further sub-division in cultivator's holding or sub-division of cultivation. Thus the question of sub-division has two distinct features. One is the sub-division of holding and other is the sub-division of cultivation and it is an every-day occurrence in India that the holdings become too small to maintain the right holder at a standard level owing to the system of sub-division.

A close study of this problem will reveal a further difficulty in the classification of sub-division and fragmentation of holdings. According to the Report of the Royal Commission on Agriculture there are four such problems, namely:—

1. Sub-division of holdings of right holders.
2. Sub-division of holdings of cultivators who may or may not be the owner of the land they cultivate.
3. Fragmentation of the holdings of the right holders.
4. Fragmentation of the holdings of the cultivators.

Sub-division of holdings of right holders, in other words, holdings possessed by right persons according to the law of inheritance will occur by the division of holdings into as many as there are persons entitled for an equal share as heirs-apparent. Besides this, famine and pestilence, increase of population, and acquisition of debtor's land by the creditors, all these increase the number of right holders which will cause further sub-division of their holdings among their sons or other heirs. Thus an increase of right holders would tend to a reduction in the average area held by each one of them. Mr. Ramlal Balla says, in his *Village Survey*, that within a period of 30 years, the average area of an holding has been reduced from 4.9 acres to 3.6 acres

and Dr. Mann, studying the problem of land and labour in Deccan villages "has found out that the number of landholders have migrated from place to place causing a multiplication in the number of sub-division of holdings." Says Mr. Keatinge, "The agricultural holdings in Bombay Presidency have to a very large extent been reduced to a condition in which their effective cultivation is impossible." It has also been found out that in one of the villages of Malabar about 34 per cent of the holdings were under one acre. In a village called Byaderahalli in Mysore District about 60 per cent of the holdings are below one acre.

The sub-division of cultivation of right holders is different from sub-division of right holder's holding in that many of the right holders do not cultivate and many more landless cultivators cultivate part of their lands. Sometimes the large plot will be divided and leased out for cultivators to different people by the right holder himself. It has become a common feature that there are more cultivators with no permanent right. In Punjab nearly 23 per cent of the cultivators cultivate only one acre or even less without any permanent right in them. They have to quit the land whenever they are asked to do so by their landlord.

Fragmentation of right holder's holdings is due to the customary method by which the heirs try to get a division of each piece of land. This method of dividing each plot, because of varying quality and to secure exactly an equal division both in quality and in quantity increases the number of fragments of holdings. The result would be that successive generations inherit not only smaller share of the land, being sub-divided at every time of the partition but also own lands being broken up into smaller plots scattering in a number of places throughout the village area. Thus the process of fragmentation will be continuous. It is ludicrous to observe that an individual holding is sometimes as small as one hundredth of an acre or even less. Mr. Keatinge is of opinion that "it is an unmitigated evil for which no advantage is claimed". Dr. Mann says that it is "disadvantageous without any kind of redeeming quality". It is doubtless that fragmentation involves much trouble and endless waste of time. It enforces uniformity of cultivation and affords no scope for improvement.

Fragmentation of cultivation is the worst kind of evil that can be found, which is the result of the attempts of smaller right holders to secure an addition to their landed property irrespective of their situation in the village. Dr. Mann has found out that sixty-two per cent of the cultivators' plots in a particular village was below one acre. Says Mr. Ramlal Balla in his *Village Survey of Berhampur* that about 35 per cent of the cultivators had over 25 fragments each.

The problem of sub-division and fragmentation is one of the most important subjects in an agricultural country like Mysore. The ever-growing smallness of agricultural holdings and the small and scattered fields are the very characteristic features of an Indian agriculture. Mysore, being purely an agricultural province, having 88 per cent of her population in villages, is no exception to this. Therefore, any scheme proposed by an organization in any part of India to mitigate the evils of sub-division and fragmentation will certainly be applicable to Mysore and so also the improvement effected in this direction in any part of India.

In Mysore, there are three kinds of cultivation, namely, dry, wet and garden cultivation and the average area fixed by the Government as a unit in every one of them will vary. In the first case, fields are usually large in size with a turf bund on all the sides to separate from one another and in some parts the turf is absent. In regard to wet cultivation, the holdings have been divided into very small plots with an idea to impound water in them uniformly for paddy cultivation. Sometimes holdings of half an acre have been divided into several plots measuring a few yards. This helps, to some extent, the sub-division and fragmentation when it happens to be divided among the successive generation. The average area of holdings for garden cultivation is small, but yet these are considered to be very valuable though small, and they are seldom to be parted with irrespective of the area except in some extreme cases.

The following table shows the minimum area fixed for each class of cultivation, to facilitate the size of holdings. The area fixed for a survey number indicates a certain unit which should not be divided further and any divided portion will not be recognized as a separate part and no entry of them be made in the Revenue records. But an individual can possess any number of survey numbers. This was laid down with a view to facilitate the work of Survey Officers and to avoid extreme sub-division of the land.

District.	Dry Acres.	Wet Acres.	Garden Acres	Coffee.
Bangalore, Kolar, Tumkur and Mysore ..	4	1	$\frac{1}{2}$	..
Hassan	4	1	$\frac{1}{4}$	15
Kadur	5	1	$\frac{1}{4}$	15
Shimoga	5	1	$\frac{1}{4}$	15
Chitaldrug, Black ..	10	..	$\frac{1}{2}$	..
,, Red ..	4			

This is the unit of area fixed by the authorities, but in practice very few survey numbers are left undivided into smaller holdings. Thus the system of cultivation will not in any way hinder the growth of sub-division and fragmentation.

The average area of holding in Mysore is little less than six acres but the bulk of it is scattered and removed from each other. The following figures show the total number of holdings of each size under cultivation:

	Number of holdings.
Holdings below one acre	113,698
,, between 1 acre and 5 acres ..	446,544
,, ,, 5 ,, 10 ,, ..	273,728
,, ,, 10 ,, 50 ,, ..	163,898
,, ,, 50 and above ..	22,926

In another year:

Holdings below one acre	121,521
,, between 1 acre and 5 acres ..	492,869
,, ,, 5 ,, 10 ,, ..	262,323
,, ,, 10 ,, 50 ,, ..	161,980
,, ,, 50 and above ..	24,739

The above two sets of figures from the *Season and Crop Report of Mysore*, show that the number of holdings of less than one acre, and between one and five acres are in the increase as a result of sub-division of holdings.

No agricultural country is immune from the evil effects of fragmentation and sub-division. In Denmark where the cultivators' area is almost equal to that of Mysore, about forty per cent of the total holdings are less than six acres, but the holdings are real farms. Both in size and in compactness, the holdings are far better than in Mysore. Denmark is now a land of small farms but the majority of them are owned by the right holders and only ten per cent are cultivated by tenants.

Japan, a land of small holdings, has about ninety per cent of her total holdings below ten acres. But in Mysore eighty per cent of her total holdings are below ten acres. Whereas Japan introduced such a system of land tenure by which all parts of the country were linked up by road and railways and Mysore remained silent following the same old primitive method. Both by means of intensive cultivation and by other attractive methods Japan achieved wonderful results in agricultural development which serves as a striking example.

In Mysore the number of holdings are increasing every year. Though the minimum area has been fixed in theory for a survey number beyond which it may not be sub-divided, there is nothing in practice to hinder any landholder to divide his holdings among his sons. Again, these small holdings may further be divided and leased out for cultivation or they may be even sold or mortgaged by the owners themselves, causing thereby an increase in the number of holdings.

Many are the causes of sub-division and fragmentation in our country. The law of inheritance by which a father's property is divided equally among his sons is an important one. The law, as it is now, is the foremost cause which has brought the sub-division and fragmentation to such a condition. This will hinder the consolidation of holdings where it is possible.

The purchase and sale of small units of land to meet the family requirements will increase the number of sub-division of holdings. Land is the main property on which an agriculturist raises a loan and it forms the natural object of transaction. When it becomes difficult for him to liquidate his debt the sale or mortgage of small portions of his land will form convenient object to liquidate his loan, thereby causing an addition to the number of holdings.

Another important cause for the progressive diminution in the size of farms and for the increase of division of holdings seems to be the general ambition of the agriculturist to get as much land as possible, distant or near, cultivable or uncultivable. An average land owner does not hesitate to acquire more and more land even in several places. This is more true of the village money-lender who buys away the smaller portions of the land of his debtors, even where the scarcity of labour and capital are felt.

Development of Mechanical Transport in India.

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Mechanical Transport Adviser to the Indian Army.

The growth of mechanical transport is, as you all know, of comparatively recent origin.

In these days when the internal combustion vehicle enters so largely into our social life, and when we all take the car, the lorry, the motor omnibus, the taxi and the charabanc as a matter of course, it is difficult to realize that less than 40 years ago it was a legal offence in Great Britain to drive a motor car without employing a man to walk in front with a red flag to give warning of approach, or that 30 years ago the idea that the motor would displace the horse was a stock music hall joke. Young as is the growth of motor transport in England, in India it is younger still.

Future generations will doubtless canonise the pioneer who first ventured on the roads of India in a motor car, but the development of civilian motor transport on an important scale only dates from the years immediately preceding the Great War.

The Victorian era in Great Britain was one of ever-increasing prosperity; a prosperity associated in all minds with the growth of railway transport. It is, therefore, small wonder that the Government of India, anxious to see a similar advance in that country, should have encouraged in every possible way the development of railways in India. With this powerful assistance the railways have for the past 50 years enjoyed what is practically a transport monopoly.

It would be difficult to exaggerate the benefit railways have brought the country in that period, but the very fact that they had no competition has perhaps given rise to a dangerous feeling of security. And now that security is challenged!

Within the last few years a new, cheap and flexible rival has arisen in the form of motor transport.

Unlike the railways, motor transport has not enjoyed much encouragement from the Government. It has rather been regarded as a source of additional revenue, but despite this attitude its development has been extraordinarily rapid.

Let me illustrate this rapid growth.

For the six years ending in 1919 the average annual imports were:

Lorries ..	.. 2,411
Cars ..	.. 87

For the six years ending 1931* the average annual imports were:

Lorries	Just over 15,000
Cars ..	.. 9,400

These figures are extremely interesting and we will return to them later. For the present let them suffice to show the extent of the threat to the supremacy hitherto enjoyed by the railways.

In England until recently there was no attempt made to co-ordinate rail and road transport. We have all heard of the result of that lack of co-ordination and the reverberations of the storm roused by a belated attempt to put matters right.

It is, therefore, reassuring to note that India has learnt a lesson from the experience in this country and to find that steps are being taken in India, both to ensure co-operation between road and rail and to avoid the conditions which have given rise to such great difficulties here. The importance of this co-ordination can hardly be exaggerated. India requires both rail transport and road transport, so it is to be hoped that means will be found to ensure that these two important industries shall flourish in prosperity and mutual assistance instead of an useless and unprofitable rivalry. Fortunately, too, there exists in India a Society known as the Indian Roads and Transport Development Association, which has done much for the motor industry in the past and may be relied upon to do even more in the future.

Let us consider for a moment the importance to India of the motor industry.

We have already seen that every year 15,000 lorries and nearly 9,500 cars are coming into the country, that is, 24,500 vehicles a year, to say nothing of some 2,000 motor bicycles, so we are probably not far off the mark in estimating that there are 160,000 vehicles in all running in India. If we allowed one man per vehicle, that would account for the employment of 160,000 men, but the tally does not end there; we must consider the numbers employed in the sale of vehicles and their components, in garages, in petrol, oil

*Actually the figures for 1932 show a very marked decrease in imports of all classes of motors, but as I have not yet seen any official corroboration of these figures, I have not included them.

and tyre sales, in the repair of roads necessitated by the use of motor vehicles, and even those less popular people engaged in the collection of motor licenses and taxes. Whether the ultimate figure he 200,000 or less, it is sufficient to show that the motor industry is already one of the principal industries in India, and experience in other countries teaches us that it is likely to grow even more important in the future.

There is yet another aspect for consideration of these import figures and one, too, of the utmost interest to British manufacturers, *i.e.*, Great Britain's share in the imports.

That share, I am glad to say, shows signs of increase, and whereas four or five years ago the Americans alone had over 90 per cent of the market, the combined foreign countries now have no more than 77 per cent. The army in India is a consistent supporter of British manufacturers and is also the organization which purchases its vehicles on the largest scale in India. Thanks largely to the steady market provided by the army and their needs, several British manufacturers have recently set up branches in India. The motor interests associated with the name of Sir William Morris have an installation in Bombay. Messrs. Roote have a large depot in Calcutta, while Messrs. Thornycroft and Albion, to mention only one or two others, have their representatives and service stations in the country.

An analysis of the import figures for the years 1930-31 throws an interesting light on the situation. Taking the value of the imports, the United Kingdom has 27 per cent of the trade in motor cars, 92 per cent of the trade in motor cycles and just over 10½ per cent of the trade in omnibuses, vans and lorries.

The total value of imports in sterling was £3,050,425 and of this £702,180 worth was supplied by the United Kingdom, *i.e.*, 23 per cent of the total import trade. There was a set-back in that year in the total imports, but not in the United Kingdom's share of that total.

Let me quote two extracts from the report of the Senior Trade Commissioner in India. The following is his commentary on the motor-car imports :—

"It is somewhat remarkable that, in a year of such general depression, the fall in the total imports has not been greater than 27 per cent and it is satisfactory to note that the imports from the United Kingdom are only 23 per cent less than in the previous year. This is the first occasion during the past eight years on which it has not been possible to record a steady advance in the number of United Kingdom cars imported. In the circumstances, however, it must be admitted that United Kingdom manufacturers have held their position fairly well. The reduction by nearly 50 per cent in the value of United States cars imported reflects the reduced purchasing power of the masses. The expansion in the case of Canada is attributable partly to greater activity on the part of the Ford Company, and partly to the fact that the Canadian figures were on an unduly low level last year. Before the establishment in 1928 by General Motors (India), Ltd., of an assembly plant at Bombay their Chevrolet and Buick cars were imported as 'set up' units from the Canadian factories. These vehicles are now imported in a 'knocked down' state from the United States works and are consequently registered as imports from the United States.

There is evidence that increasing attention is being paid to India by one or two United Kingdom motor manufacturers, but in most cases the local organization is still quite inadequate. As I have repeatedly stated, the expansion of motor transport in India will increase at a more rapid rate now that serious attention is at last being given to the extension of roads throughout the country. The market, although temporarily depressed, is one of the most promising ones in the Empire and will amply repay all the attention and care that can be given to it."

Of the omnibus, van and lorry imports he says :—

"All suppliers have shared in the reduction, but the falling-off in Canadian vehicles has been the least pronounced. The average value of the United Kingdom vehicle has increased owing to a larger proportion of heavy 'bus chassis which have been imported in Calcutta. The general position in India remains largely unchanged and, as I stated last year, apart from the large cities such as Calcutta and Bombay, where the tramways and other transport companies operate fleets of heavy vehicles, which are mostly of United Kingdom manufacture, the services throughout the country are almost exclusively equipped with light vehicles of the American type. The reason for this is that the Indian who promotes a transport organization has usually only a limited amount of capital. He is therefore attracted by cheap United States and Canadian vehicles, which he usually purchases

on the hire purchase system, runs them to death and scraps them after a couple of years or so, thus avoiding the necessity for any repair and maintenance organization. So long as these conditions prevail and due weight is not given to the longer life of the United Kingdom vehicle, it is difficult to see how United Kingdom types can obtain an entry into this business. Wherever transport companies are operated on modern scientific lines and attention is given to maintenance and repairs, the United Kingdom truck has a better chance, but such companies are still comparatively rare in India."

The General Motors Company assembly plant referred to in the first extract set up in 1928 was the first attempt to make motor vehicles in India. It is actually—as stated by the Trade Commissioner—an assembly plant, that is to say, the components are imported in the form of complete engines, gear-boxes and back axles. The Travelling Conveyor system is used. The car starts life in the conveyor in its simplest form, which is little more than a bare chassis; it proceeds slowly along the conveyor, past, as it were, an uninterrupted series of stations. At each of these stations is a gang of workmen who contribute to the construction of one item and one item only, whether that item be a radiator, a windscreen, or the hood of the car. Specializing as they do in fitting one component only, these gangs become astonishingly expert. To the onlooker it will often seem that they cannot possibly complete their allotted task before the conveyor reaches the limit of their platform, and that it will be necessary, so to speak, to pull the emergency alarm signal and stop the train. That, however, is as rare an occurrence as it is on the railways. The gang always manages to finish off their job before the conveyor has reached the border line and the next gang begins to function.

Important as was the start gained by the General Motors Company over its British competitors, the latter are now gaining ground. The British manufacturers have been handicapped by having billiard table roads in England and also by the horse-power tax. But among the firms which I have mentioned are men bold enough to appreciate this point and to build with a view to meeting the arduous conditions met with in our Colonies and Dominions. They also recognized the absolutely vital necessity of providing distribution points in the main centres, where spare parts and renewals could be obtained. It is the absence of such organization in the past which has militated largely against the success of British motor vehicles. Without ample reserve stocks of spare parts in his particular country, the owner of a British vehicle saw himself faced with the prospect that in the event of breakdown he would have to send to England for the necessary replacements. This probably involved months of delay, during all of which he was deprived of the use of his vehicle. The firms mentioned, by providing stores and distribution points in the countries they serve, have thus overcome what used to be the greatest objection to buying British.

Important as the Indian market is at present, it is bound to be even more important in the future if the development of motor transport in other countries affords any criterion of its future development in India.

We have already assessed the number of vehicles in the country at 160,000. If the total population in India is 320,000,000, then India has one motor vehicle per 2,000 head of population. If we compare this with America's figure of roughly one vehicle to every 5 or Great Britain's figure of roughly 1 vehicle to 32, then we see that India is as yet very far from what we can call saturation point in motor vehicles.

An interesting commentary made by one writer on the number of America's vehicles is that the U.S.A., with her 26 million motor vehicles inside her borders, can, by placing 5 persons in each car, move her entire population at the same time in any direction.

Let us look again at the import figures from another aspect.

The United Kingdom in 1930-31 had 23 per cent of the total import trade. Actually Messrs. Roote, Ltd., have shown me figures which prove that since that date imports of American cars have still further declined, while those of the United Kingdom have risen. And I am glad to learn that that enterprising firm has this year gained another marked advance over its foreign competitors.

To return, however, to our 1930-31 figures, which are the latest for which we have official corroboration. The value of foreign imports in that year was 2½ million pounds. If we can assume that every extra £200 a year paid to the motor industry in Great Britain will give employment to one man now idle, then we are still losing a market which would absorb in the motor industry alone 12,500 of our unemployed.

Let us now examine what the future holds for mechanical transport in India.

The advantages of motor transport may be summarised under four headings:—

1. It gives employment to a large number of people.
2. It adds to the amenities of life.
3. It has a civilizing effect.
4. It opens up areas hitherto untapped.

We might examine these four headings in detail.

1. We have already examined figures which show that the motor industry is giving employment in India to about 200,000 people. We know that motor transport is developing at a phenomenally rapid rate all over the world. The U.S.A. has 217 motor vehicles per 1,000 of population, Canada 123, France, Great Britain, the Argentine, and Denmark all over 30, British Malaya 29½, South Africa 23, New Zealand 13½, Australia 9, India has the least of any country in the world, .5, so that we may confidently predict that, given the chance, the motor industry in India is bound to increase.

2. The second advantage is that the motor adds to the amenities of life. We need only hark back a few years to the days of the tonga and bullock wagon to realize its effects. Think of the saving of time effected by the motor car to the official or business man who can now cover bigger areas than before, while their families can go to the hills in comfort. The following extract from the *Bus and Coach* exemplifies this:—

"Northern India provides another example of home practice being followed with suitable modifications. The Rawalpindi omnibus service has started an experimental long-distance service between Peshawar and Murree. A Leyland Cub chassis has been fitted with an India-built body, and according to the operating company's programme 'this body is fitted with a sunproof room, artificially cooled air is forced through, reducing the temperature considerably, bridge tables are fitted, and cards, scoring blocks, books and periodicals are supplied *en route*.'"

Deliveries of goods have been speeded up, congested urban centres are being relieved, and residence in the suburbs facilitated.

Villages which were outside the economical reach of markets have now a good and cheap communication for the disposal of their produce. Recently there was brought to my notice a scheme for a combination of road and rail service to bring fresh fish from the sea to the doors of houses hundreds of miles inland.

It is unnecessary to give further examples of the addition to our creature comforts that motor transport has brought all over the world.

3. The third advantage is the civilizing effect of the motor. This effect is particularly noticeable in Waziristan where a great circular road has been constructed leading south from Bannu to Dehra Ismail Khan, thence west to Manzai, where the road turns north in a big loop through Razmak, to Idak, and thence back east to Bannu. That road runs through a country of tribesmen who not so long ago were our redoubtable enemies. It has been constructed largely by the men who fought against us, and it is now policed by some of these same tribesmen in our employment.

In that country every man goes armed. A tribesman would no more go out without his rifle than you or I without an umbrella on a wet day. But the new road was temptingly good, and transport facilities were few, so some enterprising Indians have started a 'bus service!

The most popular form of 'bus in India is the Chevrolet, assembled in the country. This vehicle is made to carry 12 to 14 people, but the Indian 'bus proprietor likes to see a return for his money, so he does not limit his passengers to the seating capacity of the vehicle. Fifteen, sixteen, sometimes, twenty passengers may be carried, even though they have to sit on the mudguards. Imagine the discomfort of straphanging in a 'bus so overcrowded, with a rifle on your back!

The effect has been extraordinary.

On the section between Bannu and Dehra Ismail Khan the author has seen passengers going without their rifles so as to find room in the 'bus. That is a remarkable first step towards the removal of fear and the consequent establishment of law and order.

4. The fourth point is that motor transport properly used should open up and bring into touch with the railways large areas hitherto untapped.

Presumably, the ideal combination of road and rail transport from the point of view of the development of India is that road transport should open up areas hitherto untouched by the railways and should bring in scores of fresh streams of motor transport to swell the main river of railway traffic.

To discuss this fully it is necessary to quote large figures, whether they be of mileages, areas or population. Large figures are, in themselves, apt to be uninformative. Were

I to say, for instance, that the area of the Punjab is 137,000 square miles, that would convey little idea of its true size except *to the practised mathematician, but if I add that the Punjab is about the size of England,* Wales, Scotland and Ireland added together *with Denmark thrown in as a makeweight,* then you have a much better picture of the area of the Punjab. I will therefore try to limit figures or to accompany them with comparisons to conditions more familiar to us all.

The Indian Empire consists of 1,805,000 square miles, that is, it is more than twenty times the size of Great Britain, or put another way, it exceeds the size of the whole of Europe less Russia by some 40,000 square miles. In this vast Empire the railways have a mileage of 41,000 miles, which is just twice the mileage of the railways of Great Britain. Great Britain has a mile of railway to every 4.4 square miles of area, India to every 45 square miles. Railways cost up to £ 10,000 a mile to construct. (This does not refer to railways in towns which may cost up to £ 400,000 per mile in exceptional cases like that of the London *Underground.) But even at the rate of £ 10,000 a mile it is evident that railway* companies can only afford to extend their lines when traffic is available in sufficiently large quantities to bring in the necessary return on their capital, in addition to paying running expenses. They cannot afford to construct branch lines to areas in which the traffic will be small. Herein lies the golden *opportunity for motor transport: to extend the area fed by the railways to a depth of 50 or even 100 miles on each side of the line;* to collect goods from villages in that area and to transport them to the nearest railway station and *vice versa* at an economical rate, and by this means to assist in developing the resources of the country. The field for enterprise of this nature is immense and we may well see the present figures for imports quadrupled or quintupled if adequate encouragement is given to the industry. The nature of the encouragement required I will indicate shortly.

While we are on this subject of railway feeders it may interest you to know that a vehicle has been reduced for this specific purpose under the ægis of the Colonial Office and that India has contributed to its production.

The *vehicle consists of a tractor and two trailers designed to carry a load of 15 tons* over unmade roads. The first vehicle built has just completed an extensive and successful trial in England and is now undergoing a further working test in the Tropics of Africa.

The *four great advantages just reviewed give us four good reasons for thinking that motor transport in India has an important future before it.*

At the beginning of this paper I referred to the fact that motor transport had flourished despite lack of encouragement. What form of encouragement is needed? It is suggested the answer to this can be given under two headings:—

1. Good roads.
2. Equable taxation.

Roads.—*The total mileage of public roads* in Great Britain is, in round figures, 180,000 miles. On this basis what should be India's mileage? Let us work out the sum from the point of view both of area and of population.

The Indian Empire, as we have seen, is over twenty times the size of Great Britain. To obtain a fair comparison we should leave out Burma, the Himalayas and the Great *Indian Desert and this will leave us a net* area *of 1,450,000 square miles, or just about* 16 times the area of Great Britain. On this basis India should have 16 times 180,000 miles of roads, say 2,880,000 miles of roads.

On the basis of population in comparing the two countries we find that the population *of Great Britain is more than $2\frac{1}{2}$ times as concentrated as that of India.*

Looked at in another way: If x miles of roadway suffices for 1,000 people in England it will take $2\frac{1}{2}x$ miles of roadway for 1,000 people in India. This gives us an even larger figure, so we will content ourselves with the smaller figure required on the basis of size.

On this basis we have seen that if India were as well served per square mile with roads as is Great Britain she would require nearly 3,000,000 miles of road. Actually, the mileage of India's surfaced roads is some 60,000 miles only, that is 1/48th of what it should be according to our figures.

The old Romans were wise enough to see that roads made for civilization and progress and wherever the Roman Empire extended, the Romans left behind them their mark in the shape of good roads. Nearly 2,000 years have past since then but the passage of the centuries has only tended to prove how right the Romans were. We can do no better than follow their good example.

The questions then arise: where are these

roads to be built? Of what type should they be and how will they be paid for?

The first question we have already partially answered.

As we want to develop the motor industry side by side with and not in competition to railway industry, we should build roads to feed and *not to compete with railway lines*.

Broadly speaking, long haulage is the province of the railway; short haulage that of motor transport. There is a road haulage association in this country which may dispute that statement, but fundamentally it is correct of every country. It is certainly correct of India, where distances are far greater than they are in this country.

Out of the approximately 200,000 miles of earth roads which have developed all over India in accordance with the local requirements of trade, it will not be a simple matter to lay down which roads should be selected for surfacing, but the problem is simplified if we bear in mind the principle of tapping the area either side of the railway to the depth already suggested of some 50 or 100 miles.

The problem then resolves itself into one of linking np villages in the area to market towns and of linking up the market towns in turn to the railways, or where these do not exist, to the Great Trunk Roads.

We want to avoid building the roads to compete with the railways, so, if possible, they should not be built along the lines of future railways. *All this means that the work of selection of roads for metalling requires* a knowledge of pending railway projects.

It must be the work of a central authority which will pay due regard both to railway and road haulage interests and hold the balance between them. A joint enquiry into the present state of road and railway competition in India and the possibilities of their future co-ordination and development has just been dealt with in a report recently published in the Press. This joint enquiry was conducted by a road engineer and a representative of the railway board.

They have come to one or two very interesting conclusions.

1. That a comprehensive plan is needed. In this connection they mentioned a 10-year programme.

2. That an immediate start is advisable.

3. They *emphasise the need for co-ordination*. It is suggested that in the event of opposition between the road and railway authorities, *it might* be possible to take the matter to arbitration.

They also point to the desirability of providing for co-operation and co-ordination outside the Headquarters of Government and recommend the setting up of Divisional Committees, *not only to advise on the control of motor* transport, but also in their spheres to be small counterparts of Boards of Communication.

It is *gratifying to see that they advise* an immediate start. For although the number of motor vehicles per mile of public road in India is, as yet, only one fraction of what it is in England, it seems that it may have reached a stage when the lack of roads is beginning to militate against the future growth of the motor industry. It is estimated that there are 25,000 to 30,000 rural motor omnibuses in use in India. These ply chiefly over the metalled roads, and to a less extent over part of the 200,000 miles of earth roads, to which reference has already been made.

As regards the types of road to be built, this will depend upon a variety of factors, such as the quantity and type of transport the road will have to bear, the extent to which the right material is available in the district, the nature of that material and the funds available for their construction.

It *would be idle to attempt* here to say what type of road might be required in any instance. It will suffice to mention what is *perhaps insufficiently realized, i.e.*, the extent to which road surfaces influence the cost of motoring. It is obvious that uneven road surfaces *causing bumping* or *intense vibration* will reduce the life of any vehicle, thereby adding materially to the cost of running it. But even when the roads are free from bumps, when they are what the ordinary motorist calls a good road, the resistance offered by the various surfaces differs considerably.

The easiest way of satisfying yourself on this point is to compare pushing your car along an earth road and pushing it along a concrete surface. That is a quick method of learning, but not exactly a pleasant one, so perhaps you will be content with an alternative in the form of some statistics provided by the Indian Road Development Committee.

These statistics show the mileage that a vehicle will travel over different types of surface with the same quantity of petrol. The following is a rough summary of the *figures* :—

	Miles.
Over earth roads ..	2.6
Water bound macadam	2.86
Sheet asphalte ...	3.2
Concrete	3.43

Let me translate these figures in the form of costs to the owner of a four-seater car with an annual mileage of 6,000 miles.

If we assume that this car does 20 miles per gallon over sheet asphalte and concrete roads, then the car owner will use in the course of a year 6,000 divided by 20, *i.e.*, 300 gallons. On earth roads, according to the statistics given above, he will only do 15 m.p.g. He will then use in the year 6,000 divided by 15=400 gallons, say 100 gallons a year more over earth roads than asphalte and concrete roads. If he pays 1 rupee 8 annas a gallon for his petrol, the extra cost to him of the road surface will be 150 rupees a year. So it is not only the question of the evenness of the road which interests the motorist, but also that of the road surface provided for him.

Then there is the question of finance. How will the necessary funds be provided for this programme of extensive roadmaking?

Retrenchment is the order of the day in India—as in most other countries—and this does not make the problem any easier.

It is submitted that however necessary retrenchment may be in other respects it would be a retrograde step to retrench at the cost of one of India's principal industries—as the motor industry has grown to be. In spite of the effects of a world-wide economic depression nearly every country is road-building on an increased scale. Italy, America, Yugo-Slavia have each got extensive schemes in hand. Even China has issued Road Bonds for this purpose. How then is India to follow suit without adding to the burden of an already restive tax-payer? The logical conclusion is a Road Loan for India on the same lines as those raised for the same purpose by other countries.

There is nothing new or startling in this proposal. India's railways have been built up by this means. Every big business exists on borrowed capital. In every walk of life man builds for the future, down to the villager who sows his crop for a future market. The dividends will be paid by the increased number of cars on the road, and increased prosperity will give an additional return to a good investment.

The scheme which we have proposed for Road and Rail co-ordination and development is obviously only an outline in general terms. It is realized that there are many difficulties in the way. One of these is that the railways are controlled by a Board which is responsible to the Central Government, whereas road transport and road development, as transferred subjects, have no central co-ordination but are under the control of Provincial Governments.

The Board of Control which has been suggested in this paper is a Central Board with authority over all transportation and communication in India, be they by road or rail or water. Such a Board would have, as one of its principal tasks, the provision of both the principal requirements of the motor industry: not only good roads, but also the second requirement, equitable taxation.

Taxation.—The finding of an equable and equitable basis of taxation has taxed the ingenuity of every country to which the motor industry has extended. Probably owing to existing anomalies it will present an even greater difficulty in India than elsewhere. There is only one fact of which the responsible authority can be certain and that is that no basis of taxation, however ingenious, will satisfy all parties.

If you have read Jerome's delightful book "Three Men in a Boat", you will recollect that the three oarsmen on their leisurely outward progress take an especial pleasure in annoying the passengers of river steamers. They had a regular "Q" boat drill for this occasion. On the approach of a river steamer they used to let their boat drift in mid-stream and pretend to be asleep. Not until the steamer was almost on top of them would they pretend to wake up and slowly and clumsily pull to one side. They derived an exquisite enjoyment from the annoyance shown by the steamer folk. Their return journey was by river steamer, and the only thing to mar their enjoyment was the selfish behaviour of people in rowing boats who got in the way and seemed to be under the misapprehension that they owned the river. Had Jerome lived a few years later he would probably have made his heroes pedestrians on the outward and motorists on the homeward journey.

The motorist would like to see jay-walkers heavily fined for walking in the roadway. The pedestrian favours the taxing of motorists out of existence.

No one can quarrel with the theory that everyone should contribute to the upkeep of roads in proportion to the benefit received; but who is to hold the scales and decide the extent of their contributions?

Among the beneficiaries from good roads must be classified, not only motorists, but all other users of the road. Others are owners of property the value of which is enhanced

by the construction of a road, or owners of businesses in the same position.

The contribution of the road user should in fairness be based not merely on mileage, but should also take into account the actual wear of or damage done to the roads by that particular form of transport. In this connection it would not be out of place to point out that the damage done to roads by the bullock-cart is much greater than that done by the average motor vehicle.

The bullock cart is the principal means of transport in India, it is the vehicle of the Indian villager, and the Indian villager is always poor. There can be no question of abolishing it, and it will continue for years to be the most extensively used form of transport in India. But there is no reason why it should be allowed to do the damage it does, and there is no harm involved to the villagers in reducing the bullock-cart's present powers of destruction. The wheels of these carts are large artillery type wheels shod with an iron rim some 3 inches in width. Anyone who has driven in India will recollect how frequently the wheels of bullock-carts are loose and wobbling upon their axles. Either they lean drunkenly inwards until they rub against the upper side of the cart or they gape outwards until it seems that they must fall outwards flat upon the road. The action is that of a skater using alternatively the outside or inside edge instead of the flat of his skates. The weight of the cart instead of resting upon a 3-inch rim is resting upon an edge, and that edge cuts into the road like a knife and does enormous damage.

The remedy is to prevent the wheels from wobbling, and this can be done quite simply by packing up the wheel on the axle with iron washers. These could be made for a few annas by any village blacksmith. In course of time they would wear thin, but they could be kept in use for years and passed on from one cart to another.

If the police were empowered to run in a villager using a cart with badly wobbling wheels, the defect would soon disappear and roads would take a new lease of life. The damage done at present is so great and the remedy so simple that it is a matter for surprise that no such action has yet been taken.

For the motor vehicle a tax based on axle and tyre pressures and horse power, combine with a duty on petrol would, it is suggested, be the most equitable. There are, however, several anomalies which need removal. The Provincial Governments now impose their own taxes, and these are far from being consistent.

The following examples will suffice to prove this.

The taxes levied on omnibuses by three of the Provinces are—

Punjab. Act IV of 1924 as amended to date.

First 6 seats, 75*s*. per annum.
Remaining seats up to 32, 6*s*. each.

Central Provinces. Act I of 1932.

Up to 25 seats, 200*s*. per annum.
Each additional seat, 50*s*.

Madras. Act III of 1931.

Maximum tax per seat, 10*s*. a quarter to 40*s*. per annum.

For a 25-seat omnibus therefore the Provincial tax works out as follows :—

Punjab ..	.. 189*s*.
Central Provinces	.. 200*s*.
Madras ..	.. 1,000*s*.

But the Provincial tax is not all the motorist has to pay. There are other little charges. The Central Government, for instance, collects 30 per cent import duty on the vehicle, with subsequent import duties on tyres, spare parts and oils as these are required. Then there is a petrol tax of 10 annas per gallon. An article in the *Trade and Transport Supplement* estimated the receipts of the Government in 1931-32 from motor vehicles as follows :—

Import duties	.. Rs. 2 Crores
Whilst Excise duty on petrol at 8 and 10 annas per gallon for 1931-32 will amount to approximately	.. Rs. 5 Crores
Estimated sum collected by the Government of India	.. Rs. 7 Crores
Provincial taxation by Provincial Governments, Local Boards and Municipalities in the form of wheel tax, registration fees, tolls, etc., for 1931-32, approximately ..	.. Rs. 6 Crores
Approximate total sum realized	.. Rs. 13 Crores

The expenditure on roads for 1931-32 based on the figures for the two previous years is approximately 7 crores.

The motorist is, therefore, being mulcted for 6 crores of rupees more than is being expended on the construction and maintenance of roads. He is not merely bearing the whole expense of the roads ; he is contributing nearly double that expenditure. Much has recently been said and written on these taxation anomalies and it is not proposed to labour the subject here.

It is submitted that the figures just given are sufficient to justify three contentions made in this paper: these are:—

(1) That motor transport had not received much encouragement from the Government but had rather been regarded as an additional source of revenue.

(2) That the motor industry needs and deserves more surfaced roads.

(3) That the motor industry needs more equitable taxation.

It is sincerely to be hoped that the enquiries into Road and Rail transport now taking place in India will lead to improvement in these respects, and will give a fresh impetus to both the rail and motor industries.

Such an impetus should lead to further progress in India and should confirm the words of Kipling, " Transportation is Civilization ".*

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*Paper read before the Royal Society of Arts.

A new interest for travellers by the Imperial Airways Indian air-mail is now provided by the change of route which has been effected from the Persian to the Arabian side of the Persian Gulf. Instead of the rugged, mountainous nature of the Northern shore, the air journey down the picturesque Arabian coast is rendered specially interesting by the number of islands that are passed over, and by the splendid vistas of sea and land provided by the fact that the big air-liners fly along just off the coast for most of the way, thus ensuring for passengers the finest views of the ever-changing panoramas beneath their saloon windows.

This new Persian Gulf route has been necessitated by the termination of the previous agreement with Persia. By the previous line along the Northern shore of the Gulf the air-liners, after leaving Basra, flew to Bushire, Lingeh, and Jask, and thence *via* Gwader to Karachi. Now, however, after ascending from the Shaibah aerodorme at Basra, they are steered towards Kowait on the Arabian side of the Gulf, passing this seaport with its fine harbour —governed by a Sheikh who is on friendly terms with Britain—and continuing on down the coast, with its numerous islands, towards Bahrein, the stretch of territory in this neighbourhood being under the control of the King of the Hedjaz.

At the island of Bahrein, the largest of a group under the protection of the Government of India, a halt is scheduled for lunch. These islands of the Arabian coast produce dates and also a fine breed of donkeys, while on many of them are strange conical tombs, the origin of which is unknown, but which date back to very ancient times. The halt at Bahrein, with its vineyards and wells, proves very interesting, the island being the centre of a large and valuable pearl-fishing industry, in which more than 1,000 boats are employed. After lunch the flight continues over the low-lying peninsula of Qatar, and on *via* Yas island to Sharjah, where the night will be spent in one of the completely equipped rest-houses provided for pasaengers on Imperial Airways services. Sharjah is under the control of a friendly Sheikh who has taken a keen interest in the passage of the air-mail through his domain. There is a British political agent at Sharjah. Next morning, after ascending, the scene changes from desert to mountain as one's air-liner approaches the range running up the peninsula towards the Strait of Ormuz. A course is then steered through a pass between Sharjah and Dilbah, and thence *via* the Gulf of Oman and along the coast to Gwadar, in British Baluchistan, from which point the flight follows the previous route to Karachi.

A London correspondent writes:—The prospects of a reduction in the rate of income-tax are not promising, though it is fair to recall that charges that were not foreseen have amounted to some 50 millions. Whether or not any reduction is made, however, it is perfectly certain that the need for lightening the burdens on industry is as urgent as ever, and unless the Government has the courage to take drastic steps it is impossible to see any hope of early relief. Meanwhile the Federation of British Industries intends to urge the Chancellor to lower the rate of income-tax and surtax and to advocate further allowances for wear and tear of machinery. These are, perhaps, its principal suggestions, but it is also intended to put forward the advantages of reducing the duty on light hydrocarbon oils used in manufacturing processes, to protest against the excessive rate of duty on spirits and beer, and to press for equitable taxation of co-operative societies. The deterrent to creating adequate reserves which the system of imposing surtax exercises is another matter to which the F. B. I. will invite the Chancellor's attention.

Economics in the West.

The Dollar and Gold.

The Possibilities of Separation or Devaluation.

London, 31st March 1933.—A question often raised in these days when nothing surprises is whether the United States is likely to be forced off the gold standard, and if so what the consequences will be. The second part of the question is hypothetical and so elusive that we do not propose to consider it here. The first is more capable of examination.

At first sight the possibility that a country holding on all accounts roughly $4,500 millions of gold—more than one-third of the world's monetary stocks—might be forced to abandon gold as its standard seems absurd. But the prospect is not regarded as fanciful in times like these of unexpected and cataclysmic happenings, and the possibility, however remote, has therefore some serious relevance. In recent experience we may notice two distinct ways in which departure from the gold standard has been brought about. On the one hand, exchange depreciation, leading to heavy losses of gold, has been the result of over-bearing sales of funds held within the country by foreigners, these sales having been prompted by loss of faith among foreign creditors in the prospective liquidity and exchange value of the country's monetary unit. This was the type of departure from gold enforced upon Great Britain. On the other hand, there is the type represented by South Africa, whose departure was brought about by a rush for foreign currencies on the part of the country's own nationals, prompted again by the belief that the currency would eventually depreciate in terms of other units. A departure from gold may, then, be the result of lack of confidence, either within or outside the country, in the prospect for maintaining indefinitely the exchange value of its currency. Applying these lessons to the United States is it possible or likely that lack of confidence in the American dollar will go so far, on one side or the other, as to drive her off gold ?

THE GOLD RESERVE POSITION.

To be effective the influences mentioned must be sufficiently strong to reduce the central cash resources either to the statutory level or to a somewhat higher or lower level regarded by the authorities as marking a "safety-line". There can be no rigid figure, absolute or relative to liabilities, representing the limit of gold losses. In the United States even the statutory provisions have some elasticity, for the gold holding of the Federal Reserve Banks against their liabilities may fall below the datum ratio under prescribed conditions and penalties. Further, no one can foresee what the authorities would regard as the safety mark, for that would have to be decided in the circumstances of the moment. The fact, however, that the published reserve ratio of the Federal Reserve Banks has for years been well above the statutory level might tend to set the "safety figure" rather high, since the risk of ungovernable alarm, theoretically at least, would become acute at a level of reserve well above the statutory requirement.

The law prescribes, subject to the element of elasticity mentioned, a forty per cent gold reserve against Federal Reserve notes in issue and a thirty-five per cent reserve in gold or lawful money against deposits with the Reserve Banks. In extremity such as has to be visualized for this purpose, the only asset we need consider as lawful money is gold. Working on the figures for February 8, the required gold reserve is about $ 2,000 millions, and the actual gold holding $ 3,250 millions, giving a statutory surplus of $ 1,250 millions. As a result of 1932 legislation recently renewed, the whole of this can be regarded as theoretically available for surrender without reducing the ratio below the statutory level. Further, the liabilities of the Reserve Banks would in the first instance be reduced *pari passu* with withdrawals of gold, and would probably not be forthwith fully restored; on the other hand, in practice it is doubtful whether the process would be allowed to go so far as to reduce the ratio to the statutory level. But another possible element of resistance must be considered. About $ 600 millions of gold certificates, representing an equivalent deposit of gold with the Treasury, are in nominal or active circulation, and if some of these were withdrawn and replaced by Federal Reserve notes the reserve ratio would be strengthened. This course would not yield a large addition to the gold reserve because many of the certificates are probably hoarded, at home or abroad by banks or persons, rather than in active circulation, and they would almost certainly be more extensively held if the developments conceived

were suspected to be on the way. It is therefore difficult to set a figure on the extent of the gold withdrawals required to drive America off the gold standard, but the statutory surplus quoted gives an idea of its order of magnitude.

POSSIBILITIES OF A FLIGHT FROM THE DOLLAR.

Now let us consider by what developments gold withdrawals on this scale from the central banks could be precipitated. First as to the claims of the foreigner, which might be liquidated if serious panic arose. Already these have been severely reduced. At the end of 1931 the short-term claims of foreigners against the United States were estimated at nearly $ 1,500 millions, while American short-term claims abroad were placed at $ 1,300 millions. To judge from Federal Reserve figures, the first figure is now very much lower. The second may be higher, and almost certainly exceeds foreign dollar claims. On the other hand, a large part of the American claims is "frozen" and could not be surrendered in the market to offset foreign sales of dollars. Again, foreigners probably hold some American currency which might be hastily returned for redemption. But it must be remembered that claims on America would not be liquidated wholly and directly in gold; it would probably be truer to say that the net balance of sales of dollars over repatriations of American-owned foreign funds would act as a weight on the exchange, leading to ordinary "arbitrage" exports of gold. There would seem, in consequence, to be little risk of these short claims leading to an outflow of gold so large as to endanger the adherence of America to the gold standard. There remains the possibility that foreign long-term investments in the United States—estimated at the end of 1931 at $ 2,250 millions—might be sold in large quantities and the proceeds transferred across the exchanges. But the low level of American stock and bond prices sets up a strong resistance to this process, and we may therefore conclude that America is unlikely to be driven off gold by the action of foreigners alone.

How, then, might internal unsettlement operate to bring about the same result? In a condition of uncertainty and misunderstanding as to the future "soundness" of a country's money and financial institutions it is impossible to disentangle the elements and speak with assurance as to contingent results of problematical events. Experience has shown that when unbridled inflation is feared—a phenomenon unknown except as a direct result of war or revolution—the inhabitants of the country concerned endeavour to acquire foreign currencies in whose future they feel more confidence. There is no ground whatsoever for thinking that America will set a new precedent by embarking on unbridled inflation in times of peace, but even if numerous Americans thought it probable they would be faced with the question: What currencies, if any, are better than the dollar? Would they invest heavily in sterling, the future of which is impossible to foresee; would they place money in France, already gorged with gold and foreign capital, and likely to be forced, through their own actions, into almost complete isolation on the gold standard? It is difficult to see any probability of a flight from the dollar on an enormous scale in the sense described. If it took place the participants would merely repeat the experience of the Gadarene swine.

There is, nevertheless, another possibility arising again within America itself. During the past two years the amount of currency in circulation, including that held by the commercial banks, in the United States has increased by roughly $ 800 millions, notwithstanding a heavy fall in the price level and a drastic shrinkage in the volume of trade. This increase must be associated partly with the gruesome record of bank failures, which have left some areas of the country with currency as their only form of money for local business. Probably in larger part it represents actual hoarding by people who are nervous of leaving their money with the banks, and in part again a movement by the banks, particularly in more remote districts, to reinforce their cash reserves. There has been, in a word, a strong movement of conversion from credit to currency. Both, however, are paper promises, and if panic were to spread strongly it is possible that a second movement might take place away from paper claims towards gold, in the form either of coin or of gold certificates, which are simply circulating warehouse receipts for gold coin.

DEPARTURE FROM GOLD UNLIKELY.

A development thus visualized could take place only at an extreme phase of public anxiety, amounting to complete loss of morale. We consider it here purely as a theoretic possibility because it would appear to be a process novel to the modern world in time of peace. Theoretically again, if such a movement gathered speed it could be countered, partially at least by the removal of the United States

from a full gold standard in the old sense to a gold bullion standard on the post-war British model. It would be necessary to pass legislation rendering paper currency convertible into gold in the form of bars only, with a minimum size for each individual demand. *America would abandon the gold standard* for internal purposes while retaining it for external purposes. Misfortune would have driven her, as it did us, to modernize her machinery of circulation. The existing gold parities would remain in force, and in international affairs the United States would be no less truly on the gold standard than before.

These inquiries into different possibilities lead, then, to the conclusion that only a terrific loss of confidence, far surpassing anything yet experienced, could conceivably drive America off gold. It may be taken for granted moreover, that every effort would be made to preserve the connection. America and France between them hold nearly two-thirds of all the monetary gold in the world; a few smaller gold standard countries have a large part of the remainder. The departure of either America or France from the gold standard would so gravely undermine, if not finally shatter, the world's faith in gold as a store of value—a faith which remains strong notwithstanding the events of recent years—that it could not be faced by any of the remaining gold standard countries except with the gravest misgivings. The prospect of governments, central banks and large numbers of private citizens being left in possession of vast quantities of a metal usable only for ornaments and jewellery or perhaps as a substitute for base metals in industry would be alarming, to say the least. Accordingly, if the connection between either the dollar or the franc and gold were seriously assailed, co-operation to preserve the attachment would almost certainly be forthcoming, and would probably be successful.

The Possibility of Devaluation.

So much for the question of departure from gold. Much has been said recently, however, on the possibility that America, while remaining on a full gold standard, might "devalue" the dollar, the presumption being that the step would stimulate recovery in that country and in the world as a whole. Disregarding the possibility of agreed international action in the matter, let us see whether devaluation by America, acting alone, would of itself do any such thing, and if so at what cost. The only general means by which devaluation could help would be by lightening the burden of dollar indebtedness, within America and outside by stimulating a rise in the price level, and it is sometimes assumed that devaluation *would bring about automatically a proportionate rise* in commodity prices. This is the main point we have to examine, though others *of importance will be taken up in course of* the argument.

To achieve devaluation would require the passage of legislation through both houses of the Federal Congress, amending the Act of 1873 under which the dollar is defined as containing 23.22 grains of fine gold. The amendment would have to substitute a lower figure, let us say for illustration 15½ grains, reducing the gold content by one-third. In order to avoid disturbance and speculation the new content would have to be brought into force immediately. Further, for the same reason the legislation would have to be passed through both houses and signed by the President without any warning and, so to speak, in the twinkling of an eye between business hours. This in itself, without any reflection on present legislative arrangements in the United States, would be difficult to ensure, and if any miscarriage occurred the effects might be extremely dangerous. The practical difficulties, then, are great and involve grave risks. It must be remembered that action of this sort, so far as we have been able to trace, is unprecedented in modern monetary history, except for minor adjustments. True, a number of currencies returned to gold after the war with a gold content far lower than was in force before; but the restoration of a gold basis at a new parity after long separation from gold, with the exchange value of the currency unit already far below the former gold parity, is a totally different step, and very much easier to achieve, than a drastic change of parity for a currency actually on gold and intended to remain there.

Let us assume, however, that all practical difficulties have been overcome, and that the change of content has been smoothly carried through according to a perfectly arranged plan. On the figures quoted the dollar would now contain 15½ grains of fine gold, and an ounce of fine gold, hitherto worth $ 20⅔ would now be worth $ 31. Gold would be worth one-half as many dollars again as on the previous working day. We must, therefore, inquire first into the position of holders of gold or its equivalent in the United States.

Effect upon Private Gold Holders.

America still enjoys the luxury of gold coin in circulation, but she has the added

distinction of circulating a form of paper currency which from its wording may be described as a warehouse receipt, transferable by delivery, for gold. This particular form of paper, known as gold certificates, must therefore be regarded as in all essential respects co-equal with gold. The amounts of gold and of gold certificates in the hands of the public, including the commercial banks, were placed at $ 450 millions and $ 600 millions respectively at the end of last year. Some of this total may have been lost, while most of the gold and some of the certificates must be in personal hoards, and not in active circulation. Largely, therefore, the possession of gold and gold certificates is the result of design and probably only for the smaller part is it the accident of daily business. Failing any special legislative provisions, the amount of the gold and certificates together would at once be raised to roughly $ 1,600 millions, notwithstanding the denominations on the coin and paper. A present of something less than $ 500 millions would have been made to fortunate, scattered and partly accidental holders of gold and its paper representative. The present would involve no one in any positive loss or expense.

If it were desired to avoid this result on the ground of inequity it might be possible quietly to anticipate the step by withdrawing certificates from circulation and substituting other forms of paper currency, but the utmost to be achieved in this way would be the absorption of that portion of the certificates in active circulation. If, moreover, any attempt were made to regard the outstanding coin and certificates as worth only their face value, the gold would assuredly be melted down or exported and holders of gold certificates would have a valid grievance on the ground of inequity as against holders of the metal itself.

EFFECT UPON THE BANKING POSITION.

The effects upon the holders of gold as true monetary reserves are more difficult to trace because of the complexities of the system in the United States. Some of the metal is held by the Federal Reserve Banks, and some is held by the Treasury, partly in trust for the Reserve Banks, partly for those commercial banks operating under federal, as against state, law, and partly against other forms of paper currency. We can, however, work out the principal results by basing ourselves on the combined return of the twelve Federal Reserve Banks, which together perform the functions proper to a central bank. Taking the figure for February 8—the position has been modified by a subsequent fall in the gold reserve and an increase of notes in circulation—the gold reserve amounted to about $ 3,250 millions, and over-night revaluation in the proportion assumed for our example would add more than $1,600 millions, raising the total to nearly $ 4,900 millions. The increase in the assets of the Reserve Banks would have to be balanced by an increase in their liabilities, and since the " profits " could hardly be allowed to accrue to the Reserve Banks, it would presumably be credited to the Government, whose deposits would thus be increased by $ 1,600 millions. If so desired the new balance might be used to cover the deficit on the Federal budget for the current year, though this course might be regarded as offending against the canons of "sound finance", and the funds might be allocated to debt reduction. In either event the disbursement of the Government's new resources would increase the reserve balances of the member banks, adding to the basis for bank deposits. The indebtedness of member banks to the Reserve Banks is already so low that little of the new balances would be used for further reduction. Accordingly unless the Reserve Banks took deliberate steps to offset the increase it would remain as a clear addition to bank cash.

The limitations on the powers of the Reserve Banks to offset the increase are indicated in the figures. The mere increase of the gold holding reckoned in dollars would, in the first place, lift the ratio of cash reserves to note and deposit liabilities from 65 to 73 per cent and any sales of earning assets would further raise the proportion. The earning assets themselves aggregate only $ 2,100 millions, so that to offset entirely the increase of member bank reserves by the sale of such assets would reduce them to a level making it impossible for the Reserve Banks to pay their way. It is therefore almost certain that member banks' reserve balances would be largely increased by revaluation of the gold holding. The Reserve Banks might, however, pursue another policy to this end. They might withdraw some of the Federal Reserve notes in issue and replace them by gold certificates. By this process each $ 100 reduction in their note liabilities would be accompanied by a $ 100 reduction in their gold holding, and the ratio would be reduced. Even so, on any practical view it seems likely that the bulk of the primary addition to member bank reserves would remain.

What, now, would be the effects of the addition to bank cash? Already the member banks' balances at the Reserve Banks are about $ 600 millions in excess of legal requirements—the banks have failed so far to make anything like full use of the fresh cash placed at their disposal. If the whole addition to the gold stock were allowed to remain as added member bank reserves the excess would become $ 2,200 millions, and the total member bank reserves would be twice as large as the legal requirement, so that theoretically the capacity would exist to double the existting volume of bank deposits. Thus would liquidity have been brought to a ludicrous point, though added pressure would have been placed upon the banks to make use of their newly acquired cash reserves by buying investments and thus swelling the volume of bank deposits.

The important stage in the argument lies, however, not in the absolute result of the process, but in the alternatives. Let us suppose it is considered desirable to raise member banks' excess reserves to $ 2,200 millions or to any smaller figure above the present level. The Federal Reserve Banks are at liberty to bring about this result without any change in the nominal value of their gold holding, simply by buying Government securities to a total of $ 1,600 millions or less. The effect upon the cash reserve ratio, if the process were carried to the full extent of the figure mentioned, would be to reduce the percentage from 65 to 50, which would still be well above the legal requirement. Consequently, a large addition to bank cash could be brought about just as easily by open market activities of the Reserve Banks as by devaluing the dollar, and the existing gold stocks of the Reserve Banks are large enough to support any expansion that may in practice be considered desirable. We shall return to this point later.

Effects on Internal Indebtedness.

We come now to consider what is superficially the most attractive claim for devaluation, namely, that it would lighten the deadweight burden of indebtedness on American agriculture, industry and trade. A very large part, if not the greater part, of the indebtedness of companies of all kinds, local authorities and governments in the United States is fixed explicitly in terms of gold. Innumerable American bonds define the amounts due in such phrases as "payable in United States gold coin of the present standard of value," ". . . of the present standard of weight and fineness", ". . . of or equal to the present standard", ". . . of or equal to the standard of weight and fineness existing on April 1, 1930", and so on. Even the farmer's mortgage indebtedness, which has been swollen enormously in relation to his expectations of income at the present level of prices, is fixed in practice if not explicitly in similar terms. Now, runs the argument, if the gold content of the dollar be reduced the gold weight of every such debt is correspondingly reduced, to the great relief of the debtors. Is this so?

The conclusion depends on two assumptions. First, by the wording of the obligations the gold value of at least a large part of the debts would not be reduced—their dollar value would be increased—unless the law contained a provision that wherever a bond or other obligation represented a number of dollars defined in terms of the then existing standard, it should be read as representing the same number of dollars of the new standard. Only thus could the dollar amount of the debts remain unchanged. But there is some doubt whether juridically a provision of this type could be sustained; if it were incorporated in the law it might possibly be declared unconstitutional leaving the debtor with a debt increased in terms of dollars to compensate for the reduced gold content of the dollar. Confusion then would indeed be worse confounded.

But secondly, supposing the legal difficulties to be overcome, and the burden of debts in terms of dollars to be unchanged their real burden would be lightened only as the commodity value of the dollar declined. Mere devaluation would do nothing to effect an immediate reduction in the purchasing power of the dollar. Wages, rents and other costs of production would not alter over-night, nor even over a longer period, merely because the gold value of the dollar had been altered; shopkeepers' charges would not automatically rise; the price of wheat would not at once be lifted to the higher level to correspond with the price of gold. All prices and debts are dollar prices and debts first and foremost, and gold prices and debts only secondarily. It follows that devaluation could contribute to a lightening of the burden of debts only as far as it contributed to a rise in commodity prices.

It would, again, contribute to a rise in commodity prices only as it increased the volume and rate of turnover of money. We have seen that it would tend to increase the volume

of money, and it might, through the bonus presented to holders of gold and gold certificates, quicken a little the rate of turnover. But it is difficult to see how its effects in this direction would be materially stronger than straightforward reflation, in the manner just described, through open market operations of the Reserve Banks. We arrive, then, at the conclusion, so far as the argument has gone, that devaluation, if practicable at all, would be difficult to bring about, and that it would achieve results little or no more favourable than can be secured by monetary management without any alteration in the gold content of the dollar. Devaluation could be of service only as far as it meant inflation, and there are other and simpler means of achieving the same object with far less risk of intensified unsettlement. The only superiority of devaluation lies in a possible limited present to a small number of people, which might induce them to spend a little more, and in the stimulus to gold mining in the United States and any gold-producing countries whose currency units might be pegged to the dollar. Its inferiority in various ways —not least in its possible ill-effects on public confidence—outweighs this small superiority.

The Balance of International Payments.

One further line of inquiry needs to be pursued. What would be the effects of devaluation upon America's balance of international payments? The immediate result, again assuming America to be acting by herself, would be a change in all dollar exchange parities and exchange rates. The theoretical parity with the pound, on the figures adopted for illustration, would be changed from $ 4.87 to $ 7.30 and the rate of exchange would be altered over-night from say $ 3.40 to $ 5.10. Consequently American goods would at once become much cheaper for the foreigner to buy. Probably the American exporter would share the benefit of the change with the foreign buyer, so that while American goods would compete more advantageously than at present in international trade, American export prices would rise somewhat. This would apply more particularly to primary commodities like wheat and cotton, and might therefore give some relief to the American farmer at the cost of competing producers. In view, however, of the world depression and the relatively small proportion of export business to America's total trade, the effect on the general price level in the United States would probably be quite small. Nevertheless, the change would no doubt stimulate America's exports. On the other side of the account, it might be expected at first sight that a further check would be given to her already vastly curtailed imports, but this is doubtful. America's imports are already so much reduced as to consist predominantly of necessaries for which it would be difficult to find substitutes available within the country. Accordingly the new exchange value of the dollar would probably not act as a further serious impediment to imports. Taking both sides into account, the surplus of merchandise exports would probably be somewhat larger as a result of the change.

Certainly it would not help external debtors to make the necessary remittances. The net dollar amount due to America by way of interest on outstanding debts would probably be about the same, but it would be no easier for the world to find the required amount of dollars; indeed, if imports were restricted at all by the new exchange valuation of the dollar the task would become even more difficult than it is.

Allowing, then, for some stimulus to American exports, the accounting surplus of receipts over outgoings in respect of all current items in the balanceof payments would probably be somewhat larger. If America were in a mood to lend abroad this might be no bad thing; as matters stand the increased surplus would merely tend towards further sales of gold to America, so that the embarrassingly large gold stock, swollen by devaluation to still more inconvenient size, would receive yet further additions. The process of gorging America with gold would be intensified. This would be all to the good if it strengthened an upward tendency of prices, but again there seems little reason for supposing that a relatively small additional pressure towards gold inflation would have any more substantial results in this direction than straightforward inflation by pure monetary management.

Finally, in order to correct a misunderstanding, devaluation of the dollar would have no immediate effect on gold production in South Africa or any other country whose currency is attached to sterling. The amount of gold produced in that area—by far the greater part of the world's total output—depends primarily on the relationship between the sterling-dollar exchange rate and the gold parity between the two currencies. While the rate of exchange would be altered the parity would also be changed in precise proportion, so that the sterling price of gold would

be unchanged. Consequently devaluation would give but little stimulus to the world's gold production, since only a small part of the total is yielded by mines working on a United States dollar basis.

THE MORE DISTANT EFFECTS.

To conclude, devaluation of the dollar, regarded as a separate step undertaken by America alone, is extremely difficult to bring about, while it would involve grave risks for but slight benefits over and above those obtainable by straightforward monetary management. Accordingly the results of the step might prove to be disastrous. In any event, devaluation would have this in common with a departnre from gold ; it would strike a heavy blow at the gold standard itself. for the whole *modus operandi* of that standard is based upon the fixed and immutable gold content of the currency unit, and the only recognized excuse for a change is inability to return to gold at the old parity after a prolonged period of separation from gold. It is hardly likely that in the face of all the risks America, for the sake of small and problematical benefits, will be prepared to take action which might drive another nail in the coffin of the gold standard. America, notwithstanding the relief accorded to her by France and on a smaller scale in the last few weeks by our own exchange equalisation account, still has a vested interest in the gold standard larger than that of any other country.

Canadian Trade and Finance.

Canada's Balance of Payments.

Montreal, March 3, 1933.—The present slump in business due to the world-wide depression and the substantial premium on New York funds has called forth in the United States, and even in Great Britain a good deal of speculation as to the ability of Canada to meet her foreign debts. A study of the Canadian balance of payments affords reassurance on this point. On balance over the past ten years Canada has not been a borrower but, on the contrary, has exported capital to an amount of 779 million dollars. Even in the year that has just passed the net export of capital is estimated at no less than 70 million dollars. These figures are after payment of all interest due outside of Canada, and therefore, during 1932 the country as a whole had no less than 70 million dollars available to apply on the principal of foreign debts. The present exchange situation inevitably leads to considerable confusion of thought in connection with its effect on interest payments abroad. Export industries are benefited to a greater extent than the extra cost of their fixed interest charges but many corporations and governing bodies, whose obligations are payable in New York funds, are adversely affected. The country as a whole will benefit by a premium on New York funds so long as the balance of payments is favourable, as at present.

The view which is generally held outside of Canada, and is probably also believed by a great majority within the country, that on balance we have been borrowers abroad during recent years, is not difficult to understand. Prior to the war we were importing capital on a huge scale in connection with the development of the natural resources of the country, the building of railroads and the creation of a manufacturing industry. Although most of the funds for financing the war were raised within the country, the net foreign debt of Canada continued to increase. As indicated above, in recent years the reverse has been the case, but this movement has been obscured because no publicity is given to the redemption of debts maturing in New York, whereas the issues of the loans of provinces, municipalities and corporations payable in New York are widely advertised. Canadian securities held in the United States have been redeemed and re-purchased steadily during recent years. Moreover, corporations have been accustomed to make bonds payable in New York funds, even though they were marketed almost entirely in Canada and while no reliable figures can be obtained, it is probable that a substantial majority of all the corporation securities payable in New York funds is actually held in Canada. The proportion of the bonds of the municipalities, the provinces and the federal government, held in Canada is smaller. On the whole, it is probably erring on the conservative side to state that one-half of the total Canadian bond issues payable in New York funds is actually held in Canada. To the extent that this is true, the purchase of New York funds to cover interest would have no effect on exchange quotations.

Enclosed with this Letter is a statement

of the maturing principal and interest of Canadian bonds payable in New York funds in 1933, as estimated by A. E. Ames & Co., Limited. The combined total of these payments amounts to 266 million dollars. Of the 109 million dollars of maturities, a fair estimate might be that 25 million dollars is domiciled in Canada, and of the interest payments it is estimated that about 75 million dollars will eventually come to Canadians, thus reducing the net payments due in the United States during 1933 by about 100 million dollars and leaving an approximate amount of 166 million dollars payable in New York. Sixty million dollars due in October is a one-year loan of the Canadian Government which, no doubt, can be renewed without any difficulty should it be deemed advisable. In substantiation of the figures quoted above, the Dominion Bureau of Statistics estimates that not less than 50 million dollars, and perhaps as much as 85 million dollars, of the annual interest payable in New York funds came back to Canada in 1932. Since a supplementary estimate by A. E. Ames & Co., Limited, suggests that there is about 38 million dollars due in principal and interest in foreign countries, other than the United States, the net payments of principal and interest abroad will not be in excess of 200 million dollars U. S. currency less such maturities of principal as may be renewed. In reconciling this figure with those of the Dominion Bureau of Statistics' "Balance of Payments", it should be noted that their figure also includes dividends which we are not taking into consideration.

From a recent statement showing the balance of Canadian payments for the previous nine years, and a preliminary estimate of the balance of Canadian payments in 1932, as compiled by the Dominon Bureau of Statistics, under the column headed "Exports" are found all of those items for which Canadians receive payments from abroad, and in the "Import" column are found those items for which Canadians must make foreign payments. The most important of these items of revenue are commodity exports, tourists' expenditures in Canada, freight payments, gold exports and interest receipts from abroad. The most important items among the expenditures are imports, interest payments abroad, the expenditures of Candian tourists in foreign countries and freight payments. At the bottom of each pair of columns are to be seen a balancing figure. The first two columns show the average of Canada's payments and receipts from 1923 to 1927. It is noted that the balancing figures at the bottom of these two columns are in the right-hand column and this implies that the average export of capital for this period was 139 million dollars per annum, or 695 million dollars during the five years. The favourable balance for 1932 is estimated at 70 million dollars.

If the net balance were favourable in 1932 a year of most exceptional difficulties both in Canada and abroad, it is no less likely to be equally favourable in 1933. Present indications strongly suggest that there will be a material increase in gold production and export during the current year, that commodity imports will be reduced and that exports to Great Britain may show a further increase as a result of the Ottawa agreements. The world wheat situation is increasingly favourable and Canadian wheat shipments for the past two months have been 50 per cent ahead of those in the corrresponding months of 1932. If due consideration is given to the factors outlined and to our previous record, there should be no occasion to question our ability to take care of all foreign obligations without any particular strain.

Contributions of Research Council.

Within the past few years Canadian scientists have made contributions worth millions of dollars annually to the efficiency of production of Canadian industry and have greatly strengthened the competitive position of many Canadian products. The credit for the individual discoveries which have been achieved belongs to the individual scientist or to the scientists who made the new product or discovered the new process, but the field of scientific work is most complex and it is essential that each scientist be made acquainted with similar or closely allied experiments which are being conducted by other individuals in all parts of the country. Problems in physical chemistry require the co-operation of both physicists and chemists and those in bio-chemistry, the co-operation of both biologists and chemists. To be fully productive the research work must be co-ordinated. The credit for the complex and difficult task of co-ordinating this work in Canada is due to the efforts of the National Research Council and particularly to Dr. H. M. Tory, the President of the Council.

In the past when science made comparatively few and sporadic contributions to the work of the practical world, there was a very different attitude toward trade secrets than that which is now developing. Of old, each

manufacturing process was the product of a series of gradual improvements handed down through the generations from man to man. Skilled workmen could obtain results which were not understood even by themselves and certainly by no one outside the industry. Against this background the manufacturing process or the trade practice remained a mystery prized by the initiates. Yet art gained from precedent and passed from man to man, without being reduced to principles and co-ordinated into a background of general knowledge, does not constitute the type of nucleus from which new principles and practices are readily derived. To-day, when most chemical compounds can be quickly broken down into their elements by analytic chemists, when most manufacturing processes are described in detail in the textbooks and when labour circulates from plant to plant with a freedom which frustrates most efforts to keep processes secret, a new attitude is developing with relation to the common knowledge of an industry.

To-day, the research worker is frequently given every possible assistance in the hope that his careful study may result in new developments of use to the industry as a whole. While the new attitude of industry toward common knowledge is by no means universal, yet many wholesale and retail stores now pool their most intimate statistics with the hope of gaining more important information as to turnover and costs. Independent units support co-operative research which proves beneficial to each individual organization, and a whole industry unites to tell the public that "to save the surface is to save all."

In Canada, rich and varied resources and the shortage of population, which has led to a high wage scale, have put a special premium on efficiency of production during periods of normal business activity. Although there is a more general appreciation of the contribution of science to industry in Canada than elsewhere, with the possible exceptions of the United States and Germany, our industries are not the great industrial units which are found in some other countries, the individual concern cannot afford millions of dollars for research. It is possible, however, to obtain comparable results by co-operation, and our appreciation of the work of the scientist has taken the tangible form of creating excellent facilities for research and by co-ordinating the efforts put forth in a manner which compares favourably with the practice in any other country.

The National Research Council was organized in 1915 as a device for co-ordinating the efforts of the Canadian scientists who were engaged in war-time activities. The results obtained justified the maintenance of that Council in the years that followed. Thirty associate committees have been formed, representing no less than fifty-five different organizations; each of these committees works on an individual problem or an allied group of problems. Over a period of years 212 investigations have been undertaken, and hundreds of scholarships have been awarded to picked students at Canadian universities, making it possible for them to secure postgraduate training. An incidental effect of the assistance of the National Research Council in research and scientific programmes has been the development of excellent post-graduate facilities at Canadian universities.

Recently, a building to contain the administrative offices of the National Research Council, laboratories and apparatus of a type not generally provided by universities and other organizations which were working in harmony with the Council, was erected at Ottawa. In a sense, the completion of this building marks the end of a period when the greatest efforts of the Council have had to be directed toward organization and toward providing absolutely necessary facilities; it marks the beginning of a period when the National Research Council may assist and stimulate new efforts and spread the results obtained among the industries of Canada more quickly than at any time in the past.

While it is not possible in the space available to give a description of all the problems which have been solved and of those which are now in the process of solution, yet a short resume of a few of the tasks undertaken by the National Research Council will give some idea of the broad scope of the efforts of this organization.

Agriculture.

Wheat Drying.—In the three crop years, 1925-26-27, the amount of tough and damp wheat in the Canadian crop was estimated at 450 million bushels. Complaints by purchasers that it had been damaged in the process of drying led to investigation, under the leadership of the National Research Council, showing that damage to grain by artificial drying need not occur. Over a period of years, the improved methods discovered for the drying of wheat should be the means of saving millions of dollars. It is said that even

in the past year there has been an improvement in the average grade of Canadian wheat as a result of this investigation.

Rust.—Under the leadership of the National Research Council the departments of agriculture and the research departments of the universities of the Prairie Provinces have made a substantial contribution to the solution of the problem of cereal rust. The investigation of this problem represents the largest co-operative scientific effort made in Canada. In some years wheat rust has cost Canada as much as 100 million bushels of grain. Over the past fifteen years the cost has averaged at least twenty million dollars a year, and in 1916 the wheat crop of North America was reduced as a result of rust by 280 million bushels. Already the Council is in a position to state that the solution of this problem is assured. Several of the new wheats under investigation appear to combine satisfactory baking qualities, high yield and rapid growth, with a power to resist rust. It is expected that wheats of these new varieties will be available on a commercial scale in 1934.

While the problems mentioned above have to do largely with wheat, there are also investigations under way with regard to plant disease, weeds and yields which will be of material assistance to agriculture in other parts of the world. There is also a research programme under way in connection with the use of waste straw, the results of which should be of great interest to the Prairie Provinces.

AERONAUTICAL LABORATORIES.

The apparatus listed in the aeronautical department of the National Research Council's laboratories may later prove of very general interest; it consists of the following:

1. A wind tunnel in which any air speed up to 160 miles per hour may be secured in a jet 9 feet in diameter.

2. A model testing-basin 400 feet long, 9 feet wide, and 6 feet deep with a carriage capable of speeds up to 30 miles per hour.

3. An engine laboratory equipped with complete dynamometer equipment capable of testing engines developing up to 1,000 horse power at 2,500 r.p.m., together with fuel and oil-testing equipment.

4. An instrument laboratory, complete with refrigeration chamber and other necessary apparatus for the testing and calibration of all types of aircraft and allied instruments such as barometers, tachometers, altimeters and hygrometers.

There has recently been completed in the wind tunnel, at the request of the Canadian National Railways, an extensive investigation of locomotive design. The results are published in the January, 1933, number of the *Canadian Journal of Research*. A radically new streamline design of locomotive has been evolved which complies with statutory and operation requirements and, it is believed, achieves the two objectives sought: reduced air resistance and deflection of the smoke from the engineer's cab. It is calculated that the design reduces air resistance by twenty-five per cent.

Commercial tests of roof ventilators and motor car models have been made in the tunnel. Aircraft tests for the Department of National Defence have included the testing of full-sized aircraft skis.

From tests for the Department of National Defence of aircraft float models in the testing-basin, modifications of design of a type have been devised correcting unsatisfactory behaviour of the float on water.

Representations have been made that the work of the model testing-basin should be extended to include the testing of boat and ship models in order to improve performance, reduce cost of operation or increase the speed-power ratio. This is a possibility and in view of the fact that Canada with its enormous coast line is a maritime nation, that the Federal Government owns and operates more than 200 boats and vessels, and that the boat and shipbuilding industry in 1930 comprised some 150 plants with a capital of more than $ 30,000,000 and annual production valued at nearly $ 20,000,000, the basin, the only one in Canada, may prove of great value to the Government and to industry.

Other possibilities of the basin are: (*a*) testing marine propellers; (*b*) rating current meters used in the gauging of river flow for power and irrigation development.

FISHERIES.

During the past five years the average value of lobster production has been more than $5,000,000 annually; spoilage has amounted to more than 10 per cent. An extract from a recent letter from the Maritimes contains the following:

"The good work done....has been productive of excellent results. I have handled a large quantity of this year's pack of lobsters on Prince Edward Island, and I would never have believed that there could have been in so short a space of time such a marked improvement in quality....the

writer was almost going to say that he felt this was the first and only report ever put out that was of real practical value to the packers, as it appears to us to be brimful of good sense from start to finish."

The National Research Council has also made a contribution in the form of a report on the "red discoloration of cured codfish". This report has led to a material change in the practice of curing and satisfactory results are being obtained.

RESISTANCE OF CONCRETE STRUCTURES.

It has been estimated that the loss to Western Canada on account of "alkali" action on cement totals more than $ 1,000,000 a year. One municipality reports a saving of $ 35,000 during the past year on the construction of a single sewer as a result of suggestions from the National Research Council.

MINERALS.

The first investigation undertaken by the National Research Council in laboratories under its own control had to do with the rehabilitation of the magnesian products industry. As a result of the discoveries made, production was more than quadrupled and even under the adverse conditions of 1933 it is approximately double what it was before the assistance of the Council was sought. A mass of raw material of very little value has been changed into an exceedingly valuable property.

It has been stated that the lack of confidence in the "Quebec Standard Testing Machine" has cost the asbestos industry about $ 500,000 a year. In January 1933, the asbestos producers unanimously accepted standard specifications, as drawn up by the National Research Council, for the construction of machines which would do away with these difficulties.

The rich finds of gas in Alberta, where there is a gas flow of 200,000,000 cubic feet per day, has led to interest as to the commercial utilization of this material. Work in the National Research laboratories has led to a number of developments which give promise of the manufacture of ethylene, carbon black and other materials from this gas. Bitumen is also being extracted from the sands of northern Alberta, and a new industry for the production of various bitumens, which have a commercial value ranging from $ 15 or less a ton for roadmaking, to $ 150 a ton for bitumens suitable for paint and varnish manufacturers, is being developed.

There are hundreds of other projects now under active investigation or ready for investigation when funds are available. As yet, Canada has expended only about $ 6,000,000 on scientific research under the direction of the National Research Council. This $ 6,000,000 includes expenditures of about $ 3,000,000 on capital account including the new building, and about $ 3,000,000 on current expenditures. The returns obtained seem to be more than proportionate to the expense involved. Directed and co-operative scientific research has proved itself a success. The findings which, it is hoped, can be made in the future should prove of infinitely greater importance than those of which the result has already been recorded.

A London correspondent writes :— Mr. Chamberlain's principal preoccupation during the next few weeks will be the preliminary work on his Budget. At present the prospect does not seem very promising. The general expectation is that the financial year will close with a deficit. There has not been the same rush on the part of patriotic taxpayers to pay the first instalment of the income-tax during the early days of January as was seen a year ago, but that could hardly have been expected, for last year's superhuman effort was made, as the tax-payer then hoped, for one year only. The Government obviously did not expect the same rally this year, for no special efforts seem to have been made to get early payment and there have been no stirring clarion calls from either the Prime Minister or the Chancellor of the Exchequer. The Departments have been warned to keep their estimates down to the lowest possible figure, but, so far, the economy reports of the Private Members' Committee and of the Committees on Local Expenditure do not seem to have been taken out of the Treasury pigeon holes. Whatever the defects of the reports may have been they did suggest that economies amounting to about £ 40,000,000 a year could be effected in a few years, and it must be remembered that even Labour leaders like Mr. Tom Johnston now agree that the nation is heavily over-taxed.

"Do this and observe what follows in this particular case from thy action and to what knowledge it leads thee."—Frœbel's "Education of Man".

Notes from London.

Railway Progress.

London.—Evidence that organization and research are continually advancing in all railway departments is not lacking in the reports presented at the 12th session of the international Railway Congress Association now being held in Cairo. The British railways provide five reporters in the persons of Sir Henry Fowler and Mr. A. Newlands, of the London Midland and Scottish Railway, Mr. H. N. Gresley, of the London and North-Eastern Railway, Mr. E. C. Cox, of the Southern Railway, and Mr. G. H. Crooks, of the Great Western Railway.

In view of the attention at present focussed on question of road danger, some of the statistics compiled by Mr. Newlands are of interest. There are 5,816 level crossings over public roads in Great Britain and Northern Ireland, against 41,214 in the United States, 29,250 in Canada, 2,755 in Australia, and only 754 in the Irish Free State. In 1930, the last year for which complete figures for all the countries concerned are available, 11 people were killed and 24 injured on British crossings, or 0.05 people killed and 0.1 injured per 10,000 licensed motor vehicles. Compared with the average over the preceding five years, these figures represented reductions of 45 and 28 per cent respectively. For the United States the 1930 figures were 2,020 killed and 6,517 injured, or 0.64 and 1.96 people respectively killed and injured per 10,000 registered vehicles.

The laws relating to public crossings in Great Britain are antiquated, dating from 1845 and 1863, since the 1928 requirements of the Minister of Transport, while generally followed, have no legal force. For instance, the 1845 law still requires each train crossing a turnpike road to reduce its speed to four miles an hour, though the requirement is rarely enforced. While in this country the railways are responsible for the installation, miantenance, and operation of the gates, every State in the United States has its own laws. Delaware and New Jersey hold the road traveller entirely responsible for his approach, although many crossings are unguarded.

Great strides have recently been made all over the world in lengthening the time or increasing the mileage between heavy repairs to locomotives. In Great Britain the London and North-Eastern Railway average 60,000 to 90,000 miles, and the Southern 75,000 to 90,000 miles: but in North America the Canadian National attains 168,000 miles express units and 86,000 miles with freight engines, and on the Baltimore and Ohio Railroad the corresponding figures are 200,000 and 90,000-110,000. The principal reason for the high mileage now covered is to be found in the extension of long engine runs under different crews, for in this way the number of times steam is dropped and raised which is the most potent factor in determining the life of the boiler, is reduced. Among railways which stop their engines on a "time" basis, the Japanese Government Railways head the list with a period of 36 months, and, moreover, their systems of interchangeability and works organization enable the engine to be returned to traffic within five days. This time between heavy repairs is rendered possible only by working the engines within their capacity, and by a "stitch in time" policy in the running sheds, the slightest ailment receiving immediate attention. It is interesting to note that the South African Railways allow 1,000 hours for the overhaul of a Garratt engine, against 500 hours for an ordinary unit, while on the Burma Railway the Garratt and Mallet articulated types run only 50,000 miles between repairs, against the 120,000 to 150,000 miles of normal freight engines.

Length of run on one steaming varies from 400 miles on the L. N. E. Railway and 330 on the Great Southern Railway (Ireland) to 657 on the New York Central and 840 in Canada. By introducing such long runs the Canadian Pacific and Canadian National now get 15,000 and 10,000 miles a month from their largest passenger engines. But the record is still held by the Frisco Railroad freight engine which ran for 24 days on one steaming, covering 7,350 miles, and consuming 676 tons of coal and 1,200,000 gallons of water. The South African Railways have increased the unit mileage by adopting grease lubrication, which needs less attention and causes fewer hot boxes than does oil. Other railways are experimenting with harder tires to achieve the same result, but the experience of the Canadian Pacific with very hard tires up to 78 tons per square inch ultimate strength has shown that wear is not reduced.

Contrary to general belief, extensive experience on the Continent has shown that the use

of aluminium and its alloys in coaching stock does not lead to extra expense, provided that it is used in place of difficult steel forgings or castings. Where it is extensively employed in sheets or rolled sections, as for panelling or underframes, the cost has been increased by from 7 to 11 per cent on the main line stock of the Italian State Railways and by 3.5 per cent on the suburban vehicles of the Paris-Orleans line. The reductions in weight were respectively 9 and 3 per cent, and in the former case, at least, the extra expense will soon be recouped by reducing operating charges. While the use of light metals for roofs and panelling has generally proved satisfactory, some trouble has been experienced from warping in districts with a large temperature range. The severest duty so far given to aluminium is in some 63-ton hopper cars in America, where a saving in weight of no less than 35 per cent has been effected, the tare weight being barely 17½ tons.

Among automatic train control systems the "Reliostop" type has received extensive application. In addition to sounding a hooter in the cab, it applies the brake with a force which varies according to the class of signal passed at danger. Equipment for the Great Western's form of automatic track circuit for safeguarding the movements of trains is now fitted to 2,538, or 65 per cent of that company's locomotives and to over 2,204 miles of track, with 1,653 signalling points. Only on two railways is a complete automatic control system in force—that is, a system with driverless trains. One example is the 6½ mile London Post Office line; the second is a yard lay-out in America.

An instance of co-operation between rail and road mentioned by Mr. Cox is the bulk transport of milk. This is collected from various points by a six-wheeled pneumatic-tired road motor-trailer, with a 2,000-gallon tank. Detached from the motor vehicle, the trailer is loaded on a special railway wagon and conveyed 150 or 200 miles on an express schedule to a large distributing centre, there again to take the road to its final destination. The railway companies themselves have a large number of 3,000-gallon glass-lined milk tank wagons, which are loaded by siphoning installations—a great improvement on the old method of using 15 or 20 gallon churns.

Inter-working between air and rail can have but limited application in a country such as Britain and although the railway companies were, in 1929, granted powers to operate airways, their practical interest is limited to the holding of the Southern Railway in Imperial Airways. In vast countries like the United States the conditions are different and airways are a real force which the railways are turning to their own advantage. "Air by day, rail by night" is the slogan, and properly arranged schedules, with changes at dusk and dawn from one form of transport to another, have enabled the journey from Atlantic to Pacific to be halved.

LORD SYDENHAM.

It has fallen to the lot of few of his contemporaries to serve their country in so many and diverse capacities as Lord Sydenham, whose death, in his 85th year, is announced. By a strange coincidence the distinguished engineer who played so important, though relatively inconspicuous, a part in the formation of the General Staff of the Army and substitution of an Army Council for the old office of Commander-in-Chief predeceased by only a few days the still more eminent cavalryman who brought the system to its higher pitch of war-time development and efficiency.

George Sydenham Clarke, first Baron Sydenham, found the reputation which he deservedly enjoyed of being a scientific soldier with progressive ideas a hindrance rather than a help to the realization of his professional ambitions, and was in many cases the antithesis of the late Sir William Robertson. There can be little doubt, none the less, that if Robertson's insistence upon the necessity of giving so much power to the Chief of the Imperial General Staff in 1915 marked a turning-point in the fortunes of the War, the higher status was in accordance with the policy on which the General Staff system had been originally designed. But the failure of the Army adequately to recognize Clarke's great technical ability was the empire's gain when, in 1907, two years after his retirement under the age limit, he was appointed by Mr. John Morley, the then Secretary of State for India, Governor of Bombay.

This was not his first experience of Colonial administration, as he had previously served a term, while still in the Army, as Governor of Victoria. Although he had proved himself a popular and widely respected Governor, the charge of an Indian Presidency was better suited to a man of his temperament and capacity. Like many others before and since Clarke, who went out full of optimism and faith in the virtues of Liberal institutions at home and abroad, hoped by bringing together in social intercourse and work the

different cross-sections of Bombay life to promote the greater understanding and co-operation between the various communities.

The attempt failed, as it was bound to do, for although G. K. Gokhale, who filled a larger place in Indian public life than any of his contemporaries, was working on similar lines, the real spearhead of the Hindu nationalist movement was B. G. Tilak, who spurned co-operation with any foreign element. It mattered little whether the latter were Muhammadan or European; each was the representative of an alien civilization and as such must be attacked and overthrown. Clarke preserved to lengths which gravely jeopardized the goodwill of the European community. Although after the successful prosecution of Tilak he became, instead, an uncompromising exponent of the most extreme Conservative views, he never wholly regained the confidence of either Europeans or Indians, though both recognized his sterling qualities and absolute sincerity. As a result many of the far-reaching schemes which he worked out or encouraged—the Tata Hydro-Electric enterprises are a notable instance—for the moral and material improvement of Bombay, like part, at least, of his subsequent activities at home, failed to receive due recognition.

FOREIGN LOANS.

Developments since 1914, and particularly in the last few years, have put foreign loans under a cloud, and it is not unnatural that defaults and threatened defaults, reductions of capital, and partial payments should have resulted in a sense of hostility towards foreign investments. It is, of course, a most mistaken and regrettable attitude, and, while it is no doubt only a passing phase, it is none the less satisfactory that Baron Emile d'Erlanger should have put the position in its true perspective at the recent meeting of the Sterling Trust. He pointed out that it was easy to say to-day that it had been a mistaken policy to lend money abroad, but for over a hundred years England's prosperity had depended to a very great extent upon the banking facilities she granted. British iron-masters had girded the world with rails because British bankers had found the capital for their purchase. To-day a considerable portion of the capital so lent to foreign countries or invested in their industries had ceased to bring this country any revenue, but this, he explained, was not because those countries were intrinsically poorer or their respect for their engagements was impaired. It is simply due to the fact that they themselves and other countries have built insurmountable trade barriers blocking the international exchange of goods, breaking down monetary exchanges, and condemning themselves and the world at large to the accumulation of vast stocks of all the prime necessities of civilized life, because the potential consumer is unable to purchase them, even at a price below their cost of production. Baron d'Erlanger emphasized the importance to the prosperity of the world of raising commodity prices to a remunerative level. Next to War Debts this is, as I have urged so often, the most important problem with which, the world is confronted, and it can only be hoped that the coming World Economic Conference will find an adequate solution.

A London correspondent writes:—The trade returns of India for the nine months of the fiscal year April to December last afford some encouragement from Great Britain's point of view, for they show that in spite of difficulties the British share of India's imports is increasing. While the United Kingdom's proportion was Rs. 32½ crores, or 34.5 per cent of the whole, in the nine months of 1931 it was Rs. 36½ crores, or 35.8 per cent in the same period of 1932. The United States of America lost ground, as did several other countries, but the figures show only too strikingly the rapid advance made by Japan in this market. Her share of imports rose by no less than 50 per cent—from 10.6 to 15.6 per cent—mainly as a result of remarkable increase in her sales of cotton and rayon piece-goods. Fortunately, sales of British motor vehicles in India are steadily increasing, and the new preference under the Ottawa Agreement is expected to benefit this trade still further.

A smaller Rs. 5 currency note will shortly be introduced by the Government of India. Apart from the change in size, the new note will be different from that at present in circulation in the thickness of the paper and the design of the printing. The new note will be 5 inches long which is one inch shorter than the old one and 2⅝ inches wide, which is 7/8 inch less than the old note.

Economic Notes.

Tobacco Tax in Bombay.

The Bombay Government has published in the *Bombay Government Gazette* a bill proposing a tax on tobacco dealers. The scale of licence fees is left to the discretion of the Government subject to the following maxima:

(1) Wholesale Merchants Rs. 150 annually.

(2) Retail Merchants Rs. 75.

(3) Hawkers Rs. 2 only.

Penalty for infringement of the new Act will be a fine not exceeding Rs. 250 and all goods in respect of which the act is infringed will be liable to confiscation.

Empire Coffee.

The Ottawa Conference has caused the following figures to be published showing the proportion of Empire coffee imported—if not consumed—in the U. K. against non-British. Here they are, but one regrets that the returns for 1931 and 1932 are not there as well:—

	1924 Tons.	1928 Tons.	1930 Tons.
Central America ..	11,330	12,940	16,500
Columbia	1,115	1,585	1,230
Brazil	1,920	480	370
Other Foreign	3,515	2,390	1,770
Total non-Empire ..	17,880	17,395	19,870
British East Africa ..	8,665	12,510	16,190
British India	1,620	2,695	4,430
British West Indies ..	155	140	250
Other Empire	265	70	30
Total Empire ..	10,705	15,415	20,900
Grand Total ..	28,585	32,810	40,770
Per cent of Empire ..	37.4	47.0	51.3

Science and Industry.

Our Canadian Letter of this month should prove instructive. "There should be no occasion whatever to question the ability of Canada to take care of all foreign obligations without any particular strain." This conclusion is based upon a close analysis of Canada's balance of payments last year and over the past ten years. Throughout this period Canada has been exporting capital to an amount greater than has been borrowed abroad. The misapprehension that Canada will have difficulty in meeting her foreign payments is based upon the misconception of the amount of Canadian securities held abroad and mistaken calculations as to the amount of New York funds needed for capital and interest payments. The correct statistics which are herein published should be of very general interest both to Canadian investors and to investors in Canadian securities in Great Britain and the United States. The second section of the Letter deals with the great success attained by the National Research Council and the new relationship which is developing between science and industry. Here is an object lesson for India, where the correlation between scientific research and the resources of the country has still to receive attention.

Mass Education in India.

The need for extending education to the masses in India was emphasized at the Calcutta University by Dr. Rabindranath Tagore. After pointing out that Japan as a whole had benefited by Western education though it was introduced there later than in India, Dr. Tagore said that in India only the upper strata of society had reaped the benefit of education but the people as a whole were more or less out of touch with the present educational machinery. He suggested that they ought to set about and think how more important and serious literature could be produced for intellectual progress.

Drawing a glowing picture of the increase of Bengali literature and education that would take place in the near future, he appealed to the Calcutta University to spread education among the masses, starting with an extra academic system of examinations. By that system educational bodies would be created in every district, where examinations would be held in every subject in which an individual might have aptitude. In that way those who were unable to afford university education and those whose business or callings prevented them from taking advantage of schools and colleges would get general education.

The Ant as a Farmer.

Who would have thought of the ant as a farmer of any consequence? Yet it is true that there is one family of ants having knowledge of the evils of weeds. This species deliberately clears the space selected for their farm of the obnoxious growths. These remarkable little creatures, while removing the weeds, allow the plants which produce edible seeds to grow. When they are ripe the seeds are carefully gathered and chewed and then

made into ant biscuits. The biscuits made from the seed dough are dried in the sun and stored away. The ant shows much discrimination in the selection of land of agricultural value. Recently in some of the States of America scientists have been at work finding out exactly what land the ant chooses for its agricultural purposes. Incidentally they have discovered that the ant provides a good clue to valuable minerals lying beneath the soil. The minerals are not often to be found at the earth's surface. Some tests were made in the Florida mountains of many ant hills beneath which minerals (precious metals) existed and it was found that bits of mineral made a large contribution to the ant hills. These had been brought up by the ants from beneath. Further investigation showed that the ants had accomplished this by the labour of that section known as the worker ants. This mineral soil the ant farmers like for their crops.

Madras Land Mortgage Bank.

As an offshoot of the co-operative movement in Madras land mortgage banks were established, throughout the presidency and were doing a pretty good amount of business. They were so long working as quasi-co-operative societies under the supervision of the co-operative department and had no central bank at their back for financial support, supervision and control nor was there any co-ordination of work and interest between themselves. In 1927 the Government of Madras appointed a committee to report on the progress of co-operative movement in the presidency and that committee enquired into the working of these land mortgage banks and certain recommendations for improvement of their working also for the establishment of a central bank to finance these banks.

The committee also recommended that the debentures of the central bank should be made trustee investments and that the Government should guarantee the interest on debentures for a specified period. To give effect to the recommendations the Madras Government passed an enactment establishing a central bank. The whole scheme for financing the central bank depends on the acceptance of its debentures by the general public and their stability and popularity in the share market. The Government have guaranteed the payment of interest on the debentures issued by the bank for the first five years up to Rs. 50 lakhs. Several existing enactments are affected by the scheme and their amendment is necessary for its successful working. Difficulties arising out of the provisions of the Insolvency Act and the Land Improvement Loans Act have been solved by the Madras Government but an amendment of the Transfer of Property Act is necessary in order to give power to the mortgage banks to put up to sale mortgaged properties.

A proposal was therefore made to the Government of India for the amendment of section 69 of the Transfer of Property Act, but they have taken the view that the Transfer of Property Act is an all-India code of general application, and the introduction of amendments into it suitable to the working of land mortgage banks, is inappropriate. They stated, however, that they have no objection to a self-contained provincial enactment containing provisions for the working of land mortgage banks. The next question remained was to declare the debentures of the central bank as trustee securities. The Government of Madras moved for the amendment of section 20 of the Indian Trust Act and there was a debate in the Assembly on the subject. The Finance Member declaring the views of the Government of India on the matter said: The Government of India did not propose to introduce the necessary legislation, but they will consider that question of extending the list of all-India Trustees Security with the object of adding a new class of provincial securities, but this was to be deferred until the new constitution had been framed. So the matter as it now stands is that the debentures of the central bank do not differ from other debentures in the market excepting that the local Government guarantees the interest up to a certain limit.

Organized and Scientific Agriculture.

Sir T. Vijayaraghavachari, a former Dewan of Cochin, and at present Vice-President of the Imperial Council of Agricultural Research, New Delhi, speaking on "Some Aspects of Rural Life" at Ernakulam recently, referred at length to the admirable advances made in the Western countries in the matter of organized and scientific agriculture, especially in the U.S.A. where the work of the 'combined harvester', which is used there on a large scale has simplified agriculture very much. In Soviet Russia certain aspects of the Five-Year Plan have really succeeded. Reference was also made to what he saw and understood from Sgr. Mussolini, the steel man of Italy, in this direction, as also in countries as France, the States of Eastern Europe, Canada, Argentina and others.

An Educational Letter.

Homeless Children in the U.S.A.

Paris.—The Washington Ministry of Labour has made it known that at present there are from two to three thousand children wandering homeless and dying of hunger, cold, railway accidents, etc. As early as November 28th, 1930, at the "Conference for Child Health and Welfare" organized by Hoover it was declared that out of the 45 million children in the U.S.A., six million were under-nourished, and out of the 10 million children who were ill, barely 80 per cent received the necessary care.

In the 1931 Report of the New York Office of Public Health the number of under-fed children is given as 60 per cent. Since then poverty and lack of food have still further increased. Millions of children are threatened with death from starvation.

A French newspaper adds to this general information the following details: Last winter, in a Western city, 35 youths and children were taken from goods-wagons seriously ill; some had pneumonia, others were tuberculous.

A railway company has informed the Washington Bureau of Labour that 50 children have been killed and 100 maimed during last year attempting to jump from moving wagons or to climb up into them.

Railway employees affirm that these youthful beggars have practically driven the professional vagabonds from goods trains. "It is our job," officials have declared, "to keep the trains clear of such passengers, but last year it was impossible for us to do this, they were so numerous." Through El Paso alone, a Texas town of about 260,000 inhabitants, more than 45,000 of these children passed on goods trains in six months; every day an average of more than 1,500 pass through Kansas City.

Some of these youths allege that they are going to a town, whose name they give, to look for work, but the immense majority of them have no destination. The police cannot arrest all of them; the prisons are over-crowded.

A pitiful incident recently took place. A child, not sufficiently agile to succeed in jumping on a moving wagon, fell under the wheels, had his leg cut off, and died. When the authorities notified his family, who lived in a distant town, they received the following reply: "Make arrangements for burying him; we have no money."

Economies in Canada.

The Toronto *Financial Post* published, not long ago, two very curious articles on secondary education. It emphasized first of all the necessity for economising: "It is a very pertinent question whether the nation as a whole can afford to continue its constantly increasing investment in higher education for all classes of children regardless of their mental equipment or *their ultimate purpose in life*" (our italics)...... "The truth of the matter is that to reduce our national costs and equip ourselves for the competitive race of international economics we must abandon our present absurd application of the theory. The age limit up to which education is administered at the public expense must be lowered." For not much further economising can be done at the expense of teachers' salaries: "Teachers' salaries on the whole account for about half our school bill. An average annual salary in 1930 of $ 800 for teachers in the Maritimes, and even $ 1,200 from Ontario westward, seems little enough though reductions have been general since." The size of schools must therefore be reduced. There are too many pupils. "Practically no children drop out of school before the fourth grade after which they can at least scarcely be claimed as illiterate; two-thirds of all children now complete the eight-year elementary education; fully half enter the secondary school grades; one in twenty continues in a university or elsewhere....The average secondary grade student in a year costs double, and the university student eight times, what the elementary student costs." An intolerable situation. The paper also proposes that fees paid by secondary scholars should be approximately the cost of their education.

But what is to be done with all the poor children who come to swell the labour market? "The school becomes transformed into a refuge for the unemployed," and, after all, it comes cheaper to call the young unemployed school-boys without feeding them than to accede to their rightful economic demands. This appears to be the conclusion of the *Financial Post.*

Condition of Children in Germany.

The Workers' International Relief, in its fight against child misery, hunger and

privation, has undertaken, with the aid of doctors, a comprehensive investigation of the condition of children in a number of countries. In Berlin large-scale medical examinations of inhabitants of houses and of groups of unemployed were carried out, and at the same time the state of health of the children ascertained.

In a tenement house in the working-class district of Wedding, 26 children of 13 families were examined. Of these 26 children only 7 were healthy. The 13 mothers had brought 45 children into the world, of whom only 28 still survived.

In an investigation of unemployed at the Labour Exchange 15 children who had been brought by their parents were examined. Of these 15 children only one was still thoroughly sound and healthy; 11 were underweight for their age and height. A child of 2½ years was nearly 10 lbs. below weight, and a twelve-year-old boy 12 lbs. Tuberculosis is particularly prevalent in families with a large number of children. Expenditure under the health insurance has been drastically cut down. Whilst in 1930, 53,561 children received treatment in hospitals, sanatoria and hydros, in 1931 the number of children receiving such treatment was 34,342. In the meantime, expenditure has been cut down still further.

How hunger morally endangers the children is shown by the increase of vice among them. In Berlin, in the Wedding district, sometime ago, a number of ten to thirteen year old girls who offered themselves for 10 pfennigs or a bar of chocolate were taken up by the police.

NATIONAL-YOUTH BUREAU IN GERMANY.

President Hindenburg constituted on September 14th a National Bureau for the Training of Youth, and entrusted the management to General von Stulpnagel. All bourgeois youth associations and also military organizations have already adhered to it; the press announces that the Reichsbanner is also in agreement. This National Bureau has just published its programme. Owing to the attitude of French imperialism, which sees in the new institution an attack on the Peace Treaty, the programme repeats continually that there is no question of founding a military organization, but simply of giving youth "the essential qualities of the man fit for arms". Interviewed by the French paper *Paris-Midi* General von Stulpnagel declared, "If the young men who undergo this fresh-air training (training of mental and physical vigour, of feelings of discipline and comradeship) become at the same time able to furnish good recruits, this consequence will not be an evil, but it will not have been desired."

At the moment 17 camps for drill in the country will be established, either in big farms, or on the old fields of manœuvre. Each organization will send there 200 pupils, who will be trained under the leadership of ex-officers and afterwards return to their organizations as instructors.

The pupils are provided with a cloth uniform. The purpose is to make them used to a stern regime, physical culture, the simple life, disdain of comfort, comradeship and obedience. The programme includes physical exercises and exercises in close order, camping, above all route marches up to 20 miles at the rate of a mile in ten minutes, compass and map reading, judgment of distances, drawing up and delivering of messages, sketches and plans, practice in retiring and following, use of telephone, signalling, liaison service on bicycles or horseback. Happily the programme concludes "manipulation of arms is not taught"!

This has no other meaning than the militarization of sport.

THE FASCIST UNIVERSITY MILITIA.

At Turin recently a Standard was granted to the University legion of Fascist Militia. We quote some gems taken from the account of the ceremony given by the local daily:

"The burnished carbine stocks close up in a single fence of steel. The poniards, unsheathed by the officers for the salute, glitter in the sun.

"His Excellence DeVecchi and the other authorities express their satisfaction at the martial appearance of the troops, and attend the military mass celebrated by the chaplain of the University Legion, Canon don Audigio.

"The Elevation. A single crack of iron: five hundred muskets salute the consecrated Host.

"The Mass over, the Legion's flag is carried up to the altar, covered with a white sheet. The veil falls, and the priest sprinkles the new standard with holy water.

"The Legion takes the oath. The Royal March rings out, followed by the heroic notes of *Giovinezza*, which inflames our passion. Ah! If the alarm should be given at that moment!

"The political secretary of the university fascist group leaves the ranks, carbine slung over the shoulder, and says:

"'The Standard to-day given into the keeping of our hearts and our 1,800 bayonets will

float always in the van at every piece of warlike intrepidity. Not one inch of it will ever be folded up; it will be lifted from the ground only to be further advanced. *In nomine Divi Augusti semper vinces* was always written on the banners of the Romans. Similarly we may write in spirit, in promise of fight and victory, "*In nomine Ducis, vinces semper*" (in the name of the Duce, you will be always victorious).'

"We will conquer. Like the cross at the Ponte Milvius, the fasces are a sign of victory. To-morrow if the Duce strikes the great bell of history, our standard will float among the first in the attack."

MILITARY TRAINING OF SWISS YOUTH.

In the preparatory courses of gymnastics, *introduced into 24 cantons of Switzerland*, 26,541 school-children took part in 1931 (26,850 in 1930); in the preparatory courses for the manipulation of arms, in 22 cantons, 8,325 (8,799 in 1930). In 749 legal shooting organizations, shooting instruction was given to 16.847 youths (17,020 in 1930). 284,694 people took part in compulsory shooting exercise, apart from the military service (277,278 in 1930); in optional shooting exercises 220,046 took part in 1931, and 208.582 in 1930.

CHAMPIONS OF MORAL DISARMAMENT.

Our readers are aware that the French representative on the Committee for Moral Disarmament at Geneva, put forward, on the initiative of the Minister of Education de Monzio, a project for international co-operation, on which the following motion was unanimously adopted:

"*Particular attention should be given to* school publications, in order to encourage the spreading of national or international works or text-books likely to contribute to moral disarmament. These text-books and works should contain an objective account of the conflicting theories concerning the interpretation of historic facts."

That is the text as it was voted. And the French Minister of Education went further and said he would have preferred a more *deliberately international solution*.

But to see how much this means in reality, it is only necessary to consider the continual persecution of French advanced teachers, the best defenders of international thought.

Poland does not wish to lag behind her "great" ally and protector. A short while ago the directors of Polish foreign policy also put forward at Geneva a plan for moral disarmament; the press, the theatre, the wireless, the cinema, were all, according to this, *to spread the propaganda of international* peace. According to the principles it lays down, people who spread false news, professional fomentors of war, must be stigmatised as enemies of humanity and punished as such.

Splendid! But a little later the Polish penal code appeared, and its celebrity was no less than that of the Polish plan for moral disarmament. One searches in vain for any hint of the thunderbolts promised at Geneva against chauvinism. But in revenge there occurs a certain article 104, the first paragraph of which runs:

"Any person who spreads, during war or threatening war, news liable to weaken the will to defend, is liable to imprisonment."

How exactly a "period of threatening war" is to be determined, no one quite knows. Or rather the government which is continually bringing in the threat of war in order to increase its armaments expenditure means by a state of threatening war a permanent state. Article 104 is a true juridical snare for all enemies of war.

A London correspondent writes:—This week Major Astor, who is President of the Advertising Association, has been visiting some of the principal business centres in the north to explain the purpose of the Advertising Exhibition to be held at Olympia in July. It is intended to make the exhibition of practical help to every actual and potential advertiser in utilizing to the best advantage the opportunities that will be presented when trade recovers. Major Astor rightly insists that between the demand of the producer for sales and of the public for trustworthy guidance it is essential that advertising should become as scientific in method and as calculable in results as study, experience and skill can make it.

A Manchester correspondent writes:—India, one of the most promising outlets for the past few months, has been disappointing, due partly to the revision of import duties imposed in March and partly to increased Japanese competition.

Success is merely a matter of buying your experience cheap and selling it at a profit.

Diary of an Economist.

Japan's Dilemma.

Many Japanese leaders of thought are gravely doubtful whether Japan is capable of meeting the enormous commitments involved in the subjugation of Manchuria and the anticipated war with China. According to the Government's present financial programme, as seen in the budget for the current fiscal year, the army and navy will absorb most of the national revenue for the next few years. In the next two years alone the fighting forces will consume between 700 and 800 million yen, while the requirements of the country for this and other purposes will necessitate the floating of loans to the extent of some 900 million yen, thus vastly increasing the national debt and causing a dangerous process of currency inflation that has already begun. But so long as the mint is ready to print all the money required, there will be no lack of ready cash.

The enormous military outlay now going on is causing a welcome renewal of activity in various industries, resulting in high wages and absorption of the unemployed. It is, of course, an artificial prosperity that will entail unhappy results in the near future. This rapid increase in military outlay is regarded as preparation for the war with China if not also with Russia in the no distant future. The Chinese forces are gathering in Jehol and the Japanese forces are equally increasing with firm determination to drive the Chinese out. One reason given out by the Foreign Minister why Japan could not accept the advice of the League of Nations was that it would hamper Japan's military plans for the expulsion of the Chinese from Jehol.

Thus the situation in the Far East at the moment appears darker than ever, in spite of all talk of conciliation at Geneva. If the war in Jehol leads to war with China, as most people out here believe, it will be almost impossible for Western nations to keep out of it, if they are to protect their nationals and interests in China. This may be just what Japan secretly desires; for if the signatories of the Nine Power Treaty and the Kellog Anti-war Pact were to unite against the present policy of Japan and China, there is no doubt both would submit without going to war, and thus save face in a manner less humiliating than the present policy of the League involves.

World Economic Conference.

The British Government's attitude towards the World Economic Conference was defined, during a debate in the House of Commons recently by the President of the Board of Trade, Mr. Walter Runciman. Once again Mr. Runciman emphasized that the full recovery of trade must depend upon an improvement in world conditions and in this connexion he deplored the renewed disturbance in China owing to its effects on the rehabilitation of that valuable market. Although as far as the British Government was concerned the World Economic Conference could not begin too soon, the interval would not be wasted. Negotiations with five countries were in progress and the visit of the Argentine Mission had enabled a considerable advance to be made. In these complicated and difficult transactions the Government were attempting to take a broad and general survey of the whole of British industry. Referring to the most-favoured-nation clause, which had been part of 41 out of 42 of existing British treaties, he said that the principle had great advantages and could not easily be dropped, for it ensured the absence of discrimination and the simplification of tariffs. But some countries through quotas had begun discrimination despite the clauses, and the French Government, in particular, had been informed that this discrimination could not continue indefinitely. For making world agreements for lower tariffs he laid down four conditions:

(1) Effective reductions should be made;

(2) It must command general support;

(3) It should impose no disproportionate sacrifices on Britain; and

(4) It should cause no repercussions in others injurious to Britain.

Where is Democracy?

The cartoon in the London *Evening Standard* of February 17 by the well-kown cartoonist, "Low", puts off the present situation neatly. It so exactly represents the world position to-day, the big noise but no wish or will —or courage—to "get a move on". In the picture we are shown the huge Cat, *i.e.*, Democracy, crouching in the corner afraid of what—just a mouse, *i.e.*, Japan, which is ridiculing it. This surely is typical of the times. Democracy, all bulk and blubber, dominated by as many heads as hairs in a

cat's tail, and Japan, under one head, its Emperor, determined, precise, knowing exactly what it wants and determined to get it, as the Cat knows only too well, and so we have at a glance the reason why the Cat, *i.e.*, Democracy, has been wowling for years past, "Make the world safe for Democracy". When this is done, what good will Democracy ever be to the world ?

SAFEGUARDS IN INDIA.

In a letter to the *Manchester Guardian* dated February 11, Prof. A. Berriedale Keith writes :—"Those who remember Mr. Lloyd George's assurances as to the Irish Free State and have witnessed their utter negation in practice can hardly place much value in those of Sir Samuel Hoare as to India. The Government, in fact, having rejected the solution of the Simon Report, is attempting the impossible—the imposition of effective safeguards on responsible government. Either safeguards or responsible government must fail. Nor is there much doubt which will go under.

Sir S. Hoare is clearly entirely ignorant of Dominion constitutional history, or he would have remembered the fate of Lord John Russell's conception of responsible government. Lord John Russell believed in the strong Governor with wide powers. In Canada Metcalfe, most courageous of men, wore himself out in seeking to exercise his authority. Elgin capitulated forthwith. What Governor-General or Governor is prepared to defy the wishes of an Indian Ministry and Parliament, relying on the dubious support of a British Government ?

The Governor-General is to have an army. Metcalfe had an army, but it availed him not at all. New Zealand was a feeble colony in 1863. Yet it used the British forces to carry out its unwise policy against the Maoris, and the British Government could only withdraw its forces and write idle protests. In 1906-08 Elgin did not even dare withdraw the forces when the Ministry of the insignificant colony of Natal defied him, gravely mismanaged native policy (which was in theory reserved to the Governor), and continued martial law against the Governor's protests.

The Governor-General is to have a Civil Service recruited by the Secretary of State. But the Government is pledged to the rapid Indianization of that service and how can Indians, who will shortly outnumber Europeans, defy the Ministry and Parliament of their own country ? If the Ministry and Parliament decide not to pay for British troops or to meet pension or debt charges due in England, how are taxes to be collected against their will ? Are British troops to be used to gather in dues from the peasants ?

The British Government has already in effect surrendered any idea of affording real protection to British trade interests, trusting to economic and financial grounds to secure fair treatment. It still has power by a wise constitution of the Legislatures and by using the best elements of the States to create a form of responsible government which, with advice and aid from the United Kingdom, may work. But the idea that it can operate safeguards, defying the Ministry and Parliament, is a chimera which will utterly disappoint in practice those unwise enough to accept at their face value the views of the Secretary of State."

Prof. Keith's words ought to carry weight.

Artificial Manure.

The Hon'ble Sir Courteny Terrell, Chief Justice, Patna High Court, writes to the *Searchlight* :—

During the preceding twelve months I have made some experiments in the production of artificial manure the result of which may be of interest to cultivators in Bihar.

Last year I attended the lectures delivered at Patna University by Dr. Fowler (who came from Bangalore for that purpose) on "Conservation of Nitrogen". He dealt with the lamentable waste of natural nitrogenous fertilizers which occurs in India and contrasted our agricultural practice with that prevailing in China where the people are unhampered by religious and caste prejudices and are able to make use to enormous advantage of night-soil. I resolved to experiment on the principles described by him and to endeavour to evolve a process applicable to conditions in northern India.

For this purpose I had constructed a shallow cement-lined tank sunk in the ground. During the hot weather I collected all available leaves and other vegetable refuse and piled them outside the tank. In the tank I made a mixture of fresh cowdung and water together with as much cow urine as could be collected. The amount of cowdung used was approximately one-tenth of the weight of the dry

leaves; the mixture was of the consistency of a thin soup. Into this the leaves were thrown and trodden down and were left to soak for 24 hours. They were then lifted out, the superfluous moisture allowed to trickle back into the tank and they were then stacked in the form of a ridge on the surface of the ground, about six feet broad at the base, two feet in depth and three feet broad at the top. The quality of leaves available enabled me to make the ridge about 12 feet in length, after which a pause was made while leaves were collected for a fresh ridge. The heap of leaves rapidly began to ferment and the temperature taken by the thermometer morning and evening rose to between 60 and 70 degrees centigrade. At intervals of two or three days the mass was stirred and watered with a mixture of cow urine and water and restacked after which the temperature again rose. When this process had been repeated a few times the leaves were found to have undergone much disintegration. I then decided to make the addition of night-soil and for this purpose arranged with the municipal mehtars to bring one of their night-soil carts. The heap of leaves, whose temperature was now about 450 degrees centigrade, was opened out and about 100 gallons of crude night-soil poured into the mass which was then stirred and restacked. The temperature again rose and continued for over a month at a temperature which varied from 35 to 50 degrees centigrade. The temperature was such as to drive to the surface the larvæ of flies and these were immediately devoured by birds and toads. At the time of adding the night-soil and for approximately an hour thereafter the smell was unpleasant but after the lapse of that period no smell was perceptible and the mass was entirely inoffensive. The whole process was begun in the first week of April. Towards the end of June I anticipated the approach of the rains and accordingly had the whole mass removed to a stable under shelter. By this time the leaves were almost entirely disintegrated and presented a moist (but not wet) brown and crumbling appearance and were entirely free from odour. After being restacked in the stable the temperature remained above that of the atmosphere showing that fermentation was still in progress. By the end of September the temperature was atmospheric, the process was complete, and I found myself in possession of a large heap of immediately utilizable material ready for direct application in liberal quantity to the soil. The authorities of the Science College were good enough to analyse it for me and found that one heap contained 1.6 per cent of nitrogen and another 1.9: it was practically neutral. I have applied it to flowers and vegetables with most beneficial results.

It is of no use to exhort the Bihar cultivator to apply all his cowdung to the soil because he has the most exacting need of it for fuel, but by this process the quantity of cowdung used is relatively so small compared with the quantity of manure produced that I think he would find his sacrifice of this small quantity pay him. It is essential that the fermentation should be done on the surface of the soil and not in pits. Under the latter arrangement the decomposition requires the minimum of 12 months to be completed.

It is strange that the cultivator has no objection to relieving himself in the fields and walking barefoot over the same surface a day or two later to accumulate hook-worm in his system but is averse to scientific and cleanly handling of a valuable material but if the prejudice against using night-soil be insuperable, the process might be employed with the aid of the cowdung and cow urine alone. The resulting nitrogenous value would not be so great as with night-soil but it would be none the less considerable. As described, it can be completely carried out during the hot dry weather when the cultivation is at a standstill and the product is ready for use in September. There is a vast supply of leaves which at the present time are wasted and the labour required is very small in amount. Indian agriculture needs a process by which humus (live organic soil) is produced and the loss by cropping is restored. I propose to repeat the experiment with and without the use of night-soil during the coming season.

The main effect of the gold rise of 1932 has been in stimulating the outflow of gold from India, where it is estimated that about £ 500 millions worth is hoarded. A third of this had been shipped by October 1932 and since then much more than half has gone out of India.

Sixty thousand Indians have been jailed under the recent Ordinances. Has it taught them to buy more British goods? Boycott may be bad but repression may be worse,—from the mere trader's point of view.

It isn't the size of the dog in the fight that counts, but the size of the fight in the dog.

Current Comment.

By "Scrutator".

One highly consoling fact stands out from the speechlessness of the Prime Minister on the Indian problem since the Third Round Table Conference began and ended and the White Paper was issued. Whether or not the people of India—or for that the people of England—are satisfied with the present system of government in this country, whether or not they are satisfied with the record of the National Government during the past year in connection with India, one thing is certain. The Prime Minister is quite satisfied with Mr. Ramsay MacDonald, and *vice versa*. But as the people of India are not satisfied with him, they would prescribe for him a course of a book called the *Government of India* by the author of *Awakened India*.

* * *

This leads me on to the reception given to the White Paper in India. Its defence by Sir Malcolm Hailey seems natural. Its consideration by the Moderates—who are by the way out to 'work the would-be constitution whatever it is—is equally plain. The Muhammadans are not pleased with it; the Hindus, of course, do not care to speak of it. As for political organizations, the Congress has no need to refer to it even; the Muslim organizations are against its make-up; the landholders are critical; the Princes' Chamber is divided but unable to speak out. The general feeling is one of sullen discontent but not of despair. India's verdict may be summed up in one word "unwanted". The condemned White Paper may pass the Joint Committee unaltered or altered in inconsequential details but it will not lead to any happy readjustment in the relations of India with Britain. What is required is not merely a change in the White Paper but in the idea underlying it. Domination should cease and India should be free to manage her own affairs. That way lies wisdom. The way to reach a dignified position with India is through her heart. An appeal to the Indian heart would not be "in vain".

* * *

The *New Statesman* ends a long article on the White Paper in a note of despair. If Britain does not recognize the Indian claim in a spirit of friendliness, while yet there is time, she will be compelled to yield later to—. Well, it suggests force. It contemplates the rise of a Garibaldi in India before very long, who will wrest power from an unwilling foreigner. Those who know their history will agree that Garibaldi, though he worked for the liberation of his country and suffered for it by flight and what not when occasion demanded it, succeeded in overthrowing the Kingdom of Naples without striking a blow. Though ever ready to draw sword, he was always inspired by the finest type of patriotism. The *New Statesman* may not be wrong in its prognostication but it might be as well to remark that India has found her Garibaldi already and there is no mistaking that with him, she believes in peaceful evolution and not forceful revolution. The people of England should realize in time that in Mahatma Gandhi they have a friend and not a foe. Diehards may make this fact impossible of realization to-day in England but before many months are out, there is no question that the Diehards will have earned their *coup de grace* at the hands of their countrymen.

* * *

The suggestion that the dual policy of Government had succeeded and that the Congress was dead and that its organization had been scattered to the winds by the vigour of the Repression put into force has been duly tested and found wanting. The Congress Session at Calcutta was held despite the prohibition; delegates to the number of 2,000 had been regularly deputed to it from the Provinces; the absence of Pandit Madan Mohan Malaviya was made up quickly: and the Resolutions were read and passed. It is claimed even the Presidential Speech was also delivered. The Government no doubt suppressed or rather tried to suppress the holding of the session by the now very familiar method of a lathi charge. But that gave the session the only thing that could make it the most memorable one ever held in the annals of the Congress. It is a pity that neither the Government of India nor the Bengal Government did not perceive the evil effects of such a suppression of the session. They had to publish the proceedings themselves and save the Congress all the trouble involved in publicity work. The Congress has had its say—only the opportunity of its considering the position *visa vis* the White Paper and the implications of a change in the Constitution, whatever that Constitution may be and

whether that is accepted by the Congress or not, was lost to Government. And the Government probably now feel that they had outdone themselves. Even such outdoing has its brighter side. It will help to make them see things more clearly. That is the net result of the suppression of the session, so far as effects can now be analysed. If to-day 2,000 people are ready to offer the sacrifice of their individual freedom, there must be something to be said for the Congress even after the Dual Policy has worked—and worked with the heaviest hand possible—for 12 months and more.

* * *

The whole idea of repression in India seems to be based on the idea prevalent in certain quarters that the agitation for reform in India is a purely fictitious one, worked up by the Congress partisans in their own interest and expressing no real want on the part of the public at large. Else the belief that met with a firm resistance, the agitation would vanish away with no worse result than the possible holding of a few meetings is hard to explain. The Government are wholly unaware—so it seems from what they have been doing—of the strength of the forces which they are provoking. This is the more to be pitied as they have long conceded that reform is needed and that Indian opinion should be consulted. The present British Cabinet is committing the same mistake that their predecessors have committed time and again in England itself. Take the attitude of Wellington in regard to reform in England and take again that of the British Unionists in England towards Ireland until the Irish question was finally solved. Such mistakes cost a great deal—in loss of so many kinds—that it is better to retrieve the position before it is finally lost.

* * *

The death of Lord Chelmsford raises the question whether he would have managed India better than his successor has done. Lord Chelmsford is pictured by Mr. Montagu in his *Diary* as a frigid ceremonialist, quite un-human, who did things in a mechanical man. There was, to be sure, safety in a man like that. He inspired confidence; he had a personal charm which one did not see at once; and he meant well. True, he allowed the O'Dwyers and Dyers a free hand but once he saw the hand that let him down, he allowed it to be denounced without attempting a defence. The India of to-day is different; it has grown since then and the position has been rendered worse by continuous hard rule by means of Ordinances and the rest. Even so delightful a personage as Lord Willingdon finds it hard to yield to his environment. That is to say, the *system of Government that* has long prevailed claims almost every one that comes within its orbit for its victim. Unless the system goes or is radically changed, there is no chance for a real Indo-British Commonwealth.

* * *

The twenty-one days' fast that Mahatma Gandhi has declared is one that is bound to create a deep impression on the world. The Government position being what it is—war to the last degree against his idea of a truly independent India friendly to Britain—there is no doubt that the fast will quicken the feeling for unity in India. The fast has no political complexion, it is true, about it, but its effects on the political situation cannot be ignored. Government should note that single fact. As for the Indian nation, it is up to it to prove—both Hindus and Muhammadans and possibly all the rest as well—that they understand the significance of the fast. They ought to show unmistakably that they are one—one in their feeling, in their action, and in their demand for national existence. The Mahatma may not explain what he means by the fast beyond what he has said already. But the lesson of the last fast is too fresh to mistake what this could mean. Quick decisions; quick declarations carrying into effect the decisions; and quick re-orientation of the whole position is what is required. Will the people of India fail on a momentous occasion like this? The Mahatma belongs to India and all in it—native and foreign—should do his bit to stand out for India and for the ideal of the Mahatma, if he is to survive the present fast. Government may not understand the implication of the position but they too would do well to ponder the situation and consider seriously whether a radical change of policy is not immediately called for in the interests of the country as a whole. It may be too late to mend matters a few days hence. That is the significance of the eight days' notice given by the Mahatma. That notice is to both Government and people. It would be well if the former moved at once; failing them, the latter should make good the position in an unmistakable manner. Absolute unity is what is required. Close up the ranks, then.

Topics in the Journals.

The World Crisis.

In the course of a speech which Mr. Lloyd George delivered when he was presented with the freedom of the borough of Port Talbot, he said :—

"There is no reason why this world crisis should not be brought promptly to an end if you can persuade the rulers in every land to have the courage to tell their people what is wrong, how it can be put right, and then have the boldness to do the right thing.

"Every country is trying to get off by shifting the necessary sacrifice on to the shoulders of others by doing everything except what is needful. You can't do that. Why do I say you can settle this crisis if you take the right lines? I will tell you. This crisis has come upon us not because the world is too poor but because the world is too rich. Why all this distress when the storehouses of Providence are over-crowded? Nothing but organized stupidity could have precipitated such a crisis under such conditions for so many years.

"There is a lack of real vision in most lands, there is a lack of courage to face the real facts, and everywhere the same narrowness and stupidity which created the crisis is still in charge of world affairs with two or three exceptions I shall not mention, but ours is not one of them. (Laughter and cheers.) All the countries of the earth are going on doing exactly the same thing which caused the trouble. What caused it? International suspicion, international jealousy, international fear, and international hatred. They are worse to-day than they have been at any time since the war."

Let them analyse the cause. There were armaments. They were more powerful to-day than ever since the war—infinitely more powerful than they were on August 4, 1914. Then there were barriers in international trade. They were higher, more numerous, more complex, more complicated to-day than they had ever been. Then there were international debts.

"We came to an arrangement the other day," he said, "not to cancel them but to perpetuate them. That is not the way to settle the troubles of the world.

"Something has been said about the doctor's mandate. The nations are persevering more than ever in the treatment that laid them low. Quite frankly, in my opinion, nothing effective is being done to alleviate this trouble. The worst kind of surgery is that which is feeble-minded, hesitating, which is afraid to cut deep enough to get rid of the evil."

They had had conferences and to spare until in recent months the firmament had been whirring with the flight of statesmen to and fro. They had a conference to save Central Europe from collapse. It was a fussy failure.

"We pledged our word of honour and the word of Britain—I was present as Britain's representative—that if Germany disarmed we would follow suit. I ask the question to-day. Are nations to commit perjury and escape the penalty? They are paying for it now. For ten years we have been considering not how we shall carry out our word but how we shall escape our obligations. Have you read the speech of the German War Minister? He is undoubtedly the strongest man in Germany to-day and what he says goes. His speech was an ominous one. He said: 'We have waited for you to carry out your pledge to Germany to disarm. You have not done so. Germany must now rearm.'

"You see what that means? A people of 65,000,000 with the genius for military discipline rearming. The trouble is that if they rearm there is not a country which signed the Treaty of Versailles and which has not disarmed that has any moral right to protest. Our part in that business, I am ashamed to say, was pitiable and despicable.

"I hope that nations will wake up in time, because I see we are just drifting towards the precipice." Lausanne had settled nothing and had only produced a series of "ifs". He hoped they would scrap all these conditions and "ifs" and face boldly the problem of cancellation of all those debts and reparations that were interfering with commerce.

Unless they could cut down trade barriers, cancel debts and reparations, and carry out their disarmament obligations he saw little hope. Until that was done, suspicion, fear and hatred would continue to unsettle the world. Now was their great opportunity to disarm. Russia wanted to disarm for economic reasons; Italy was agreeable, but still they held back. They had no one bold enough or far-seeing enough to do the right thing.

Outlets for India's Population.

"India has a vast and growing population. We want some field for expansion; and statesmen who do not think of this aspect of the problem are not worthy of the position they occupy," said Sir K. Venkata Reddiar, recently delivering a lecture at the Senate House under the auspices of the University Extension Board.

The lecturer said that, inspired by love of conquest or extension of sovereignty, or driven by oppression—political or social—at home, Europeans had gone all over the world and had established colonies. Some colonies had asserted their independence from the mother conntry, but most of the British colonies had preferred evolution to revolution, and had proceeded step by step in securing concessions from the mother country, until, by the enactment of the Statute of Westminster, Great Britain had made them autonomous nations within the British Commonwealth.

The colonies required labour to develop their territories, and generally invited immigrants from other countries. Practically every nation in Europe was represented in the population of the United States of America. Trouble arose when California refused to admit the Japanese into the State. This resulted in the drawing up of a "gentleman's agreement," by which Japan agreed to issue passports to America only to a very limited number of her nationals. Later the Immigration Law was passed, and the nation of origin plan was adopted, by which America undertook to admit immigrants from various countries in proportion to the number of their nationals already in the States. This meant that only such persons would be admitted into America as could be naturalized there, and that admission was denied to Asiatics and Africans, since they were not entitled to be naturalized in the country.

The British Colonies, continued the speaker, had behaved in a similar manner towards Indians and Asiatics, except that they had not adopted the nation of origin plan. From the early days of their history Canada and Australia had managed to exclude Indians. As they could not be excluded by legislation, the Canadian Government resolved to admit into the country only those, who went straight to Canada from an Indian port, without breaking their journey anywhere on the way. The results were obvious since there were no boats plying directly from an Indian port to a Canadian port. A few enterprising Indians, he said, had taken a steamer, the Komagata Maru, from Karachi; but when they reached Vancouver they were not allowed to land, and they had to return to India.

Referring to Australia, the speaker said that a batch of Indian immigrants was sent there in 1837, and that was the last time Indians were allowed to land there. The Chinese and the Japanese were denied admission into Australia by means of legislation. A dictation test was imposed on Indians which worked very adversely on them. A few years after the Union Government of Australia was established, the "White Australia" policy was adopted by which none but Europeans were allowed to enter the colony.

New Zealand, the speaker had learnt on high authority, did not mind any number of Indians going and settling there, but there was, unfortunately, not much scope for expansion in that country.

Turning to South Africa, the speaker asserted that the fortunes of that colony had been made by the sweat of Indian labour. Invited by the South African authorities and helped by the Government of India, successive batches of Indian immigrants had gone to Natal and other parts of South Africa, and had helped to develop the country. The Boers had welcomed the Indians, but did not want them to enjoy civic rights. After the Boer War the lot of the Indian settlers became difficult and various methods were adopted by the South African Government to exclude Indians from settling in the colony. To crown all, the Immigration Act was passed by which the Minister of the Interior had declared that Indians were economically unfit to settle in South Africa.

The Smuts-Gandhi Agreement and the various deputations led by leading Indian politicians, said the speaker, had not succeeded in bettering the lot of the Indian settlers to any appreciable extent. The Reciprocity Act, passed in 1918, gave the colonies the power to regulate their own policy of immigration.

"Our only consolation," added the speaker, "is that we can shut out immigrants from other countries only, to do so, we shall have to obtain the consent of the Secretary of State for India. I admit that the Government of India have done their best, yet the lot of the Indian settlers in South Africa is as miserable as ever it was."

In spite of the encouragement offered by the Governments of Canada and Australia, he continued, to European immigrants, the two countries could not yet boast of having had a sufficient population. Indians, he suggested, would have been better fitted to develop the natural resources of Australia, since the climate was more or less tropical, and Indian agriculturists would have been able to convert the forests of Australia into cultivated lands.

"What is to become of our nationals in these British Colonies? What is to be India's immigration policy?" he asked, and added: "The several millions of Indians in the various British Colonies, such as South Africa, Fiji and the Malay States need some measure of protection from the mother country. It was the duty of Indian statesmen, he declared, to do their best to secure for India a field of expansion for her growing population.

In concluson, the speaker referred to the Manchurian problem, and said that both China and Japan were claiming that part of Asia for the expansion of their nationals. If Japan could defy the whole world on that issue, the problem was one well worth considering by Indian statesmen.

Dr. A. Lakshmanaswamy Mudaliyar, in proposing a vote of thanks to the lecturer, hoped that the University Extension Board would be able to arrange a series of lectures on the problem of immigration by Sir K. Venkata Reddiar.

Recent Economic Publications.

Economic Tracts for the Times.

By G. D. H. Cole. Messrs. Macmillan & Co., Ltd., London, Bombay and Madras. Price 12s. 6d. net.

A reviewer approaches any new work written by Mr. Cole with the full expectation of finding it particularly thought-provoking in substance and very lucidly written. Nor is he disappointed in this, the latest book from Mr. Cole's fertile pen. The economist will find here a large and varied assortment of knowledge and opinion to stimulate his appetite and to rouse his critical faculty. Indeed, it would appear that the author was working on these separate works—one of them dealing with the present economic crisis, the other with various aspects of economics in theory and practice, while a third was meant to cover the topic of socialization of industry and banking. The three works, it would appear, have, after a considerable degree of development, been welded together into one. This was only to be expected from Mr. Cole who always has several books on the topics at the same time. But there is certainly a link between the three portions of the present book—and that is the topic of "the inward rotting away of capitalism, which renders necessary a restatement of economic doctrine, a proposal of remedies for the depression and the assertion of the merits of socialization and socialism."

Dealing with the topic of the restatement of economic doctrine, Mr. Cole argues that economics has been made into a mere science of prices thoroughly and completely; and that it concentrates its attention directly on the working of the price mechanism in modern societies. It might pretend to do otherwise; but when it cuts the cackle and comes to the horses, it is of prices that it speaks." Hence Mr. Cole "finds this conception of the scope of economics fundamentally unsatisfactory". But surely he forgets that there is a very strong and numerous school of economists which makes the study of economic welfare its main task. What, for instance, does Mr. Cole make of such a work as Pigou's *Economics of Welfare*? And Pigou is only the representative of the Cambridge School of Economists which

draws its inspiration from Marshall. Nor are there wanting eminent continental and American economists to study the topic of economic welfare and "to conceive of social costs and social utilities".

We might next advert to Mr. Cole's remedial programme as regards the present depression. Here Mr. Cole is on surer ground and restates clearly the proposals put forward as to the advisability of the raising of the world price level, the cancellation of war debts, the sealing down of the obligations of the debtor countries, the reduction of tariffs and the regulation of international lending, that is the programme which he would place before the World Economic Conference. He would have the world stabilize the price-level in such a way that we could have both stable exchange rates and stable internal prices. Examining the problem of "managed currency" he feels that it can be made a success if the nations are really prepared to co-operate in working out a common financial system, through a really strong international bank. Such a system of "managed currency" is, he adds, quite compatible with at least a partial retention of the gold standard, provided the reserve ratios are varied from time to time. On these lines Mr. Cole would approve of an international standard currency; but if the world is not prepared for such co-operation on sound lines, then Great Britain can only keep off the gold standard and stabilize her internal price-level.

But, of course, Mr. Cole is at his best and is also most authoritative when speaking on the topic of socialization. For then, indeed, his foot is on his native heath. It is satisfactory, therefore, to find that though in theory he condemns capitalism out of hand, yet when he comes to practical suggestions his socialism is of a mild type. To begin with indeed, he announces that his maxim is "to each one according to his need" (p. 6). But when he develops his practical proposals he is far from being the extremist that he looked like at the start. "The majority of socialists do appear to hold that the direct conduct of industries through Civil Service Departments is not the best method of industrial organization, even where the case for State intervention to control an industry or service has been sufficiently made out" (p. 270). He would recognize that while on the one hand the conduct of many vital services can be no longer left to the unregulated control of private enterprise, on the other hand the existing mechanism of the modern state is unsuited to the conduct, or even to the detailed regulation, of industrial and public service undertakings. What Mr. Cole envisages is the gradual development of semi-Public Companies under the guidance, control and regulation of the Government. Such control will tend to become more extensive as time goes on. He recognises, at least provisionally, that private shareholding is not compatible with socialization. At the same time he does not preclude the existence of "stock bearing not a fixed, but a variable, dividend, as long as this dividend is subject to a maximum." This is indeed a very reasonable and modest type of socialism. Indeed Mr. Cole adds that "I distrust the man for whom the socialist ideal, or any other ideal, looms so large as to cover the whole of life. For that, I think, is a sign of inhumanity." We recommend this view of socialism to the more extreme advocates of that school of thought in general, and to the Bolsheviks in particular.

In conclusion, it might be said that Mr. Cole has written a book which ought to find a place on the book-shelves of every careful student of Economics.

J. C. Coyajee.

Co-operation in India.

Edited by H. L. Kaji, M.A., B.Sc., I.E.S., J.P., Hony. Secretary, All-India Co-operative Institutes Association, Bombay, and Professor, Sydenham College of Commerce and Economics, Bombay. Published by the All-India Co-operative Institutes' Association, 9 Bakehouse Lane, Fort, Bombay. Price Rs. 5.

We owe an apology to the learned Editor of this volume for the delay that has occurred in reviewing it. It has been due to diverse causes but the regret may well be qualified by the thought that our appreciation of its content has been in consequence the greater. The work, taken as a whole, enshrines, perhaps, the most authoritative collection of first hand writing on Co-operation in India—its history; its place in national life; its prospects; its financial aspects; its extra-economic features; its legal and educative sides; etc. The topics included in it are dealt with by experienced co-operators, who have something of value to say on them. Professor Kaji may appear to disarm criticism by what he writes of the shortcomings of the volume, but we think even such as it is, it is a welcome addition to the Co-operator's Library. It would be difficult, indeed, to mention alongside of it another designed on the same proportions as this one, which can at all be described as either comprehensive or authoritative. Almost every contributor in the volume is a recognized authority and what is more what he has to say on his topic is based on personal experience or knowledge which is, especially in matters co-operative, of the utmost value. A further point in regard to this volume is the difficulty of retailing its contents; it is so full of good things that it almost defies retailing. Each interested reader must read the Chapters he is likely to be most interested in. As regards offering criticism of particular views propounded, this seems to us to be a matter wholly superfluous. It is something too bold to speculate on the value of such criticism as well. To the student of general economics, we would commend this volume as of special interest because it comes from those who have a right to speak on the topics they have made their own. A word should be added about the Directory part of the volume. It includes succinct notes on Co-operative publications, journals, organizations and a Co-operator's Who's Who. This part, we should own, has all the elements of a hardy annual and if we may hazard a remark, is worth separate publication annually on slightly enlarged lines. The volume lacks an Index which ought to be supplied when a new edition is undertaken. Professor Kaji gracefully acknowledges the assistance he has had from Messrs. S. K. Yegnanarayana Iyer of Madras and C. Hayavadana Rao of Bangalore in editng the volume.

Sir Mark Cubbon (1834-1861).

By K. N. Venkatasubba Sastri, M.A. (Madras). George Allen & Unwin Ltd., London, 16s. net, pp. 322.

The author has attempted in this volume (*The Administration of Mysore under Sir Mark Cubbon*) an account of the administration of Mysore under Sir Mark Cubbon. Within the compass of five chapters, he states the problems which Sir Mark had to handle (Chapter I), gives his solutions for them (Chapter II), explains the principles underlying them (Chapter III) and the instruments which made them possible (Chapter IV); and finally estimates Sir Mark's

administration from the critical and comparative points of view (Chapter V).

Sir Mark Cubbon was a conservative and cautious administrator brought up in the traditions and principles of Munro, Malcolm, Jenkins and Elphinstone. He had a thorough knowledge of the country and the inhabitants of Mysore and personal acquaintance with their ruler. He understood in so far as it was then possible the history and traditions of the country and tried to know what seemed best for it in his opinion. As Commissioner, he was the representative of and trustee for the Maharaja on the one hand, and a subordinate officer responsible to the Governor-General, the Court of Directors and latterly the Secretary of State for India on the other. His controlling authority in Mysore, though limited from the external point of view, was wide and extensive in the internal administration. With a Secretariat presided over by European Assistants under his supervision, and four European Superintendents distributed over the four divisions into which the province was divided, with a system of official conferences, tours, inspections and checks and counter-checks from the highest to the lowest rung of the services, Sir Mark strove with a fair measure of success to reform and modernise the administration of Mysore (in Revenue, Customs, Agriculture, Industries and Commerce, Judicial, Police, Jails, Education, Medical, Public Health and Public Works Departments, among others), paying as far as practicable due regard for Indian usages, institutions and customs, and employing Indian agency, in strict accordance with the instructions of the *Supreme Government*. Not only were the foundations thus laid for a model Indian State, but the increasing prosperity of the country and the moral and material welfare of the people committed to his charge, were the logical outcome of his work.

The author has, however, based the *Introduction* to the book (pp. 15-19) on Cubbon's *General Memorandum on Mysore* (of 1855), for an account of the affairs of Mysore from the fall of Tippu Sultan down to the appointment of Cubbon as Commissioner in 1834. This is rather misleading and likely to cause serious misunderstanding of the actual state of affairs since the statements contained in the *Memorandum* (as for instance, those relating to the subsidy having been in arrears prior to 1831, and the misgovernment of the Maharajah) are known to be one-sided and open to question. While viewing matters from Cubbon's standpoint, the author takes no responsibility for the latter's statements, as he himself says (p. 16). This, though highly unsatisfactory, disarms criticism. He would have done better and enhanced the value of the volume, had he only either omitted the Memorandum version or included it as one of the *Appendices* and given an independent *Introduction* of his own to enable the readers to understand clearly and appreciate the full significance of the course of affairs between 1799-1834.

The author's criticism of the administrations of Dewan Purnayya and Maharaja Sri Krishnaraja Wodeyar III (pp. 236-237) is overdrawn and not borne out by the materials on record, while it ignores the principle that historical persons and institutions should be judged by the standards and circumstances of their own times. Thus, the allegations that—

"'Purnayya was a clever financier but an unsympathetic minister;....fond of power and partial to one community;....submissive to the British Residents but insubordinate to the Maharaja;........ measured his success more by the balance in the treasury than by the quantity of general happiness,' 'The Maharaja was a victim of worthless favourites and lost all control over his government owing to their intrigues,' 'Purnayya's tyranny and imperious character and the unbusinesslike attitude of the Maharaja,'" are not only lacking in foundation but also wholly uncalled for. It may be added that these allegations have already been proved to be baseless and the Maharaja and the Dewan appraised and estimated in proper perspective (*vide Mysore Gazetteer, New Edition, edited by Mr. C. Hayavadana Rao*, Vol. II, Part 4, pp. 2828-50; 2866-84, etc.).

In describing Cubbon's work as *trustee* for the Maharaja (pp. 124-135), the author has totally ignored to mention how Cubbon viewed the Maharaja's restoration to power and what estimate he formed of the latter,—topics on which there is abundant material scattered over Indian periodical literature, the Mysore State Papers and other documents of the period. Again, in the discussion of the financial policy of Cubbon, the author could have attempted a detailed examination of the causes for the accumulation (up to Rs. 50 lakhs) and delay in the liquidation, of the Madras Government short loan of Rs. 10 lakhs, instead of merely commenting on the policy of caution (pp. 194-95); nor has the author attempted to indicate and discuss the *per capita* and the *incidence* of taxation on the various classes of people. As regards contemporary opinion on Cubbon's work in Mysore an account of him gleaned from the *Vrittanta Bodhini*, a vernacular periodical of the time (which the author claims to have noticed) or other contemporary sources, would have been a weighty testimony from the popular point of view, and a fitting conclusion of the theme.

The year 1833 was the starting point of English Education in Mysore by the Maharaja (*vide Catalogue of Historical Portraits in the Jagan Mohan Palace, Mysore*, p. 24), and not 1840 (p. 82). On the plate facing p. 312, Cubbon's period of office in Mysore is mentioned as 1834-1864, whereas it ought to be 1834-1861. The date of Cubbon's birth was 1785 and not 1775 as indicated on the portrait facing the title page in the book. Some oriental words are not properly interpreted: *Kunchuees* (*Kanchukis*–a hereditary class of menial servants) is taken by the author to be a community whose character cannot be traced (p.91); *Kadanrunb* is taken to be a Tamil word (p. 148), whereas it is clearly a Kannada corruption of *Kādārambha* (natural cultivation); *Coolwar* (*Kulawār*) meaning individual, is a Kannada admixture, and not a *Marathi* term as interpreted by the author (p. 144); and *Chinna* (for *Chenna*) on p. 308, means Bengalgram (*Kadale*) and not horsegram.

The author would have facilitated the reading of the book had he followed the accepted system of spelling oriental terms, and included in the *Appendices* a glossary of the more important ones. The *Index* is far from complete as is evident from the non-inclusion of the following, among other, names: Seringapatam, Yelandur, Budd, Elliot, Fraser, Popham and Stokes. The name of H. H. Sri Krishnaraja Wodeyar III is not also mentioned, he being simply referred to as the "Maharaja", both in the text and the Index. The get-up and printing of the book are good, a special feature being the illustration (facing p. 241), 'The Mysore Cottages' at the Isle of Man, erected by Miss Elizabeth Cubbon in 1864 in memory of Sir Mark.

N. S. R.

Books in Brief.

Short Reviews of Recent Books

The Jade Buddha and other Stories.

By Dinar Beheram. Messrs. A. H. Stockwell, Ltd., 29, Ludgate Hill, London, E.C. 4. Price 2*s.* 6*d.* net.

The author of this book deserves to be complimented on the production of this book of stories. She has contrived to write short tales in a crisp manner. Each is complete in itself and conveys its own moral. The tale of the "Jade Buddha", (the name is wrongly speit *Buddah* on the title page) is typical of the rest. But the story of "Kia-Kia, the Half-Caste" is tragic in the extreme but there is poetic justice in the fate that overtakes the girl Kia-Kia. The story of the "Favorite" is told in inimitable style, while that of the "Rivals" is interesting because of its very brevity. But the most impressive from the readers' point of view is "Kate Amerley's Luck", which is about the best told in the whole book. Mr. Jacob is a character by himself and will be long remembered by readers of Miss Dinar Beheram's little book of stories. A fine companion on a Railway journey.

Dinar Beheram
Author of *The Jade Buddha and other Stories*

An Outline of Economic Theory.

By R. M. Joshi, M.A., B Sc., I.E.S., Bombay.

The author has collected into book form the seven lectures which he delivered to the members of the Indian Institute of Bankers, Bombay. As the author says, it is neither a cram book nor a synopsis but a useful book for beginners in Economics. The book consists of seven chapters dealing with such topics as, What is Economics ?, The Problem of Population, Laws of Demand and Supply, Currency and Credit, and Inequality of Income.

Mr. Joshi has written the book in a vigorous style and it is an excellent work which should commend itself highly to the beginners as an introduction to the detailed study of Economic theory. The exposition is simple, but at the same time arresting. The two lectures on "Population", "Currency and Credit" are brilliant and up-to-date, though the same cannot be said of his treatment of value or rent. The book as a whole reveals the mastery that the author has over his subject-matter. No one who takes it up to read can lay it by without finishing.

In modern days no person dare be ignorant of the matters which affect him, the society in which he lives, his nation and the world itself. Every individual has his value in society and a knowledge of Economics will increase that value. The man in the street is continually required to pass judgment on the important matters which this book in brief compass deals with. To all such this book will prove of the greatest value.

B. V. N.

Banking and Currency.

By W. J. Weston, M.A., B.Sc., Bar-at-Law, Head of the School of Commerce, The Polytechnic, London. The University Tutorial Press, Ltd., Oxford University Press, Post Box 31, Bombay. Price 6*s.* 6*d.*

This is a new and revised edition—the third one—of Mr. Weston's popular book, which will be widely welcomed by teachers and the taught in the field of Economics. Mr. Weston's statement that he has thoroughly revised the book and brought it up to date is fully borne out by its contents. The book speaks as from the end of 1932. Not the least of its merits is its simple presentation of complex topics. The account of financial developments since the departure of Great Britain from the gold standard is a good sample of perspicacious writing. The statement of the causes and effects of the fall in prices is equally good while the manner in which the last (1932) War Loan Conversion Scheme is set out, is admirable. Though appearing in Appendices, the discussion of these topics as well as those of decimal coinage, currency deterioration and the like enhance the value of the book. An excellent, practical and up-to-date book for both colleges and laymen.

The Mysore Economic Journal.

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